

**ORDER**

8120.2C

**PRODUCTION APPROVAL AND CERTIFICATE  
MANAGEMENT PROCEDURES**



April 5, 2002

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

---

**Distribution:** A-W (IR/FS/VN) -3; A-X (CD/FS) -3; A-FFS-0 (LTD)  
A-FAC-0 (ALL); AMA-220 (10 copies); AMA-250 (10 copies)  
AFS-600 (10 copies); AVR-20 (ALL); AEU-100

Initiated by: AIR-200



## FOREWORD

This order was prepared to provide guidance for Aircraft Certification Service personnel in the accomplishment of certain agency responsibilities. These include the evaluation, approval, and certificate management of the production activities of manufacturers and their suppliers producing products or parts thereof in accordance with Title 14 Code of Federal Regulations, Certification Procedures for Products and Parts.

The guidance in this order relates to the following four types of production approvals issued by the Federal Aviation Administration, including any Manufacturer's Maintenance Facility established therein:

1. Production Certificate.
2. Approved Production Inspection System.
3. Parts Manufacturer Approval.
4. Technical Standard Order authorization.

This order has been organized into two functional areas: procedures for the evaluation and issuance of a production approval; and procedures for certificate management of a production approval.

Original signed by

Frank P. Paskiewicz  
Manager, Production and  
Airworthiness Division



**TABLE OF CONTENTS**

**CHAPTER 1. INTRODUCTION**

<i>Paragraph</i>	<i>Page</i>
1. Purpose. ....	1
2. Distribution. ....	1
3. Cancellation. ....	1
4. Effective Date. ....	1
5. Explanation of Major Changes. ....	1
6. Acronyms. ....	2
7. Definitions. ....	3
8. Forms. ....	6
9. Relation to Other Directives. ....	6
10. Requests for Information. ....	7
11. Authority to Change This Order. ....	7
12. Deviations. ....	7
13. Electronic Signature. ....	7
14. Continuous Improvement Program. ....	7
15.-19. Reserved. ....	7

**CHAPTER 2. PROCEDURES FOR ISSUING A PRODUCTION APPROVAL AND AN MMF CERTIFICATION**

**SECTION 1. INTRODUCTION**

20. General. ....	9
-------------------	---

**SECTION 2. PRODUCTION UNDER A TYPE CERTIFICATE ONLY (PART 21, SUBPART F)**

**PART 1. GENERAL**

21. Applicability. ....	9
22. Privileges. ....	9
23. Advising the Applicant. ....	9

**PART 2. FAA ACTIONS DURING THE SIX-MONTH PERIOD**

24. FAA Conformity Determinations. ....	12
25. Assessing the Applicant's Progress. ....	12
26. Extension of Six-Month Period. ....	12
27. APIS or PC Not Established Within Six-Month Period. ....	12

**PART 3. PROCESSING AN APPLICATION FOR AN APIS**

28. Application. ....	12
29. Review of Production Inspection System Data. ....	12
Figure 1. Sample FAA Form 8100-1, Conformity Inspection Record. ....	13

<i>Paragraph</i>	<i>Page</i>
Figure 2. Sample Letter of Authorization for Extension of § 21.123(c) Six-Month Limitation. ....	15
30. Provisional Approval Procedures. ....	16
31. Preliminary District Office Audit. ....	16
32. APIS Board. ....	16

#### **PART 4. ISSUANCE OF AN APIS**

33. APIS Approval Letter. ....	17
34.-40. Reserved. ....	17
Figure 3. Sample Letter for Approving a Manufacturer's Production Inspection System. ....	18

### **SECTION 3. PRODUCTION CERTIFICATE (PART 21, SUBPART G)**

#### **PART 1. GENERAL**

41. Applicability. ....	21
42. Privileges. ....	21
43. Advising the Applicant. ....	21

#### **PART 2. PROCESSING AN APPLICATION FOR A PC**

44. Application. ....	23
Figure 4. Sample FAA Form 8110-12, Application for Type Certificate, Production Certificate, or Supplemental Type Certificate. ....	24
Figure 5. Sample PC Application Acknowledgement Letter. ....	25
45. Preliminary DO Audit. ....	26

#### **PART 3. PRODUCTION CERTIFICATION BOARD**

46. General. ....	26
47. PCB Member Responsibilities. ....	27
48. Conduct of the Board. ....	28
49. PCB Minutes. ....	29
50. PCB Adjournment. ....	30

#### **PART 4. ISSUANCE OF PRODUCTION CERTIFICATE AND PRODUCTION LIMITATION RECORD**

51. Preparation and Delivery of PC and PLR. ....	30
52.-55. Reserved. ....	31
Figure 6. Sample FAA Form 8120-4, Production Certificate. ....	32
Figure 7. Sample FAA Form 8120-3, Production Limitation Record. ....	33
Figure 8. Sample PC Transmittal Letter. ....	34

*Paragraph**Page***SECTION 4. TECHNICAL STANDARD ORDER AUTHORIZATION (PART 21, SUBPART O)****PART 1. GENERAL**

56.	Applicability. ....	35
57.	Privileges. ....	35
58.	Advising the Applicant. ....	35

**PART 2. PROCESSING AN APPLICATION FOR A TSO AUTHORIZATION**

59.	Application. ....	38
60.	Design Approval. ....	38
61.	Preliminary DO Audit. ....	38

**PART 3. ISSUANCE OF A TSO AUTHORIZATION OR LETTER OF TSO DESIGN APPROVAL**

62.	TSO Letter of Authorization. ....	39
63.	Letter of TSO Design Approval. ....	39
64.-67.	Reserved. ....	39

**SECTION 5. PARTS MANUFACTURER APPROVAL (SPECIAL GUIDANCE)**

68.	General. ....	40
69.	Marking Detail Parts of PMA Assemblies. ....	40
70.	Identification Marking of Replacement and Modification Parts Produced Pursuant to the Enhanced Enforcement Program (EEP) as Published in Federal Register Notice, February 27, 1995. ....	40
71.-75.	Reserved. ....	40

**SECTION 6. MANUFACTURER'S MAINTENANCE FACILITY (PART 145, SUBPARTS A AND D)****PART 1. GENERAL**

76.	Applicability. ....	41
77.	Privileges. ....	41
78.	Advising the Applicant. ....	41

**PART 2. PROCESSING AN APPLICATION FOR AN MMF**

79.	Application. ....	41
80.	Repairmen Certification. ....	42

<i>Paragraph</i>	<i>Page</i>
------------------	-------------

### **PART 3. ISSUANCE OF THE MMF CERTIFICATE**

81. Air Agency Certificate. ....	42
Figure 9. Sample FAA Form 8000-4, Air Agency Certificate. ....	43
82.-84. Reserved. ....	44

## **SECTION 7. EXTENSION OF A PRODUCTION APPROVAL WITHIN THE UNITED STATES**

### **PART 1. GENERAL**

85. Applicability. ....	45
86. Privileges. ....	45
87. Advising the Original PAH and the Associate Facility. ....	45

### **PART 2. PROCESSING A REQUEST FOR EXTENSION OF A PRODUCTION APPROVAL**

88. Request for Extension of a Production Approval. ....	46
89. Evaluating the Request. ....	46
90. Coordination With the Geographic MIDO or CMO. ....	46

### **PART 3. APPROVAL OF THE REQUEST FOR EXTENSION OF A PRODUCTION APPROVAL**

91. Approval of the Request. ....	47
92. Geographic MIDO Responsibility After Approval of the Request for Extension. ..	47
93.-95. Reserved. ....	47
Figure 10. Certificate Management Life Cycle Process. ....	48

## **CHAPTER 3. CERTIFICATE MANAGEMENT PROCEDURES**

### **SECTION 1. INTRODUCTION**

96. General. ....	49
97. Domestic Hand-Off Procedures. ....	50
98. Assignment of CM Coordinator. ....	51
99.-102. Reserved. ....	52

### **SECTION 2. ONGOING CM RESPONSIBILITIES**

#### **PART 1. INTRODUCTION**

103. General. ....	53
Figure 11. Certificate Management Responsibilities (Ongoing) – Minimum Responsibilities. ....	53

<i>Paragraph</i>	<i>Page</i>
104. Certificate Management Plan. ....	54
105. Coordination of Audit Activities With Other CAA's. ....	54
106. Recording Noncompliances. ....	55
107. Reserved. ....	55

## **PART 2. RESOURCE TARGETING**

108. Resource Targeting Model. ....	55
109. Scope. ....	55
110. Resource Targeting Groups. ....	55
111. Resource Targeting Categories. ....	56
112. Resource Targeting Assessment of Facilities. ....	56
113. Collection of Facility Assessment Data. ....	57
114. Identification of Resource Targeting Groups. ....	57
115. Modification of Resource Targeting Groups. ....	58
116. Disposition of Automated Files. ....	58
117. Resource Targeting Model Validation Plan. ....	59
118. Modification of the Resource Targeting Model. ....	59
119.-122. Reserved. ....	59

## **PART 3. DETERMINING SUPPLIER CONTROL BY A PAH OR ASSOCIATE FACILITY**

123. General. ....	59
124. Certificate Management Activity. ....	60
125. Determination of Supplier Control. ....	61
126.-128. Reserved. ....	61

## **PART 4. PRINCIPAL INSPECTOR EVALUATION**

129. General. ....	61
130. Recording a PI Evaluation. ....	63
131.-134. Reserved. ....	63

## **PART 5. AIRCRAFT CERTIFICATION SYSTEMS EVALUATION PROGRAM EVALUATION**

135. General. ....	63
136.-138. Reserved. ....	64

## **PART 6. SUPPLIER CONTROL AUDIT**

139. General. ....	64
140. Supplier Selection. ....	65
141. Directorate Supplier Control Audit List. ....	66
142. Coordination of Supplier Control Audits Between Directorates. ....	66

<i>Paragraph</i>	<i>Page</i>
Figure 12. Sample Supplier Control Audit Notification Letter. ....	67
143. Notifying a PAH or Associate Facility. ....	68
144. Recording a Supplier Control Audit. ....	68
145.-147. Reserved. ....	68

## **PART 7. PRODUCT AUDIT**

148. General. ....	68
149. Selection of Product Audit Characteristics. ....	69
150. Product Audit Areas. ....	69
151. Product Audit Criteria. ....	70
152. Recording Product Audit Results. ....	70
153. Recording a Product Audit. ....	71
Figure 13. Applicability of Product Audit Criteria to Product Audit Areas (Minimum). ....	71
154.-156. Reserved. ....	71

## **SECTION 3. RANDOM CM RESPONSIBILITIES**

### **PART 1. INTRODUCTION**

157. General. ....	72
158.-159. Reserved. ....	72

### **PART 2. EVALUATION OF CHANGES TO A PAH'S OR ASSOCIATE FACILITY'S QC OR INSPECTION SYSTEM**

160. General. ....	72
161. Prioritization of Review. ....	72
162. Review of Changes. ....	72
163. Post-Review Actions. ....	72
164.-167. Reserved. ....	73
Figure 14. Sample Letter of Approval for Quality Control System Changes by a PC or TSO Authorization Holder. ....	74
Figure 15. Sample Letter of Acknowledgement for Inspection System Changes by an APIS or PMA Holder. ....	74

### **PART 3. INVESTIGATION OF SERVICE DIFFICULTIES**

168. General. ....	73
169. Investigation. ....	76
170. Corrective Action. ....	76
171. Reporting a Service Difficulty Investigation. ....	76
172. Foreign Manufacturers. ....	77
173.-175. Reserved. ....	77

**PART 4. INVESTIGATION OF REGULATORY VIOLATIONS**

176. Enforcement Actions on Safety-Related or Systemic Noncompliances. .... 77  
 177. Enforcement Procedures. .... 77  
 178. Multiple Enforcement Actions. .... 78  
 179. Timeliness. .... 78  
 180. Invalid Alleged Violations. .... 78  
 181. Voluntary Disclosure Procedures. .... 78  
 182.-184. Reserved. .... 78

**PART 5. CORRECTIVE ACTION**

185. General. .... 79  
 186. Corrective Action Procedures. .... 79  
 187. Corrective Action Response. .... 81  
     Figure 16. Corrective Action Flowchart. .... 82  
 188. Corrective Action Validation. .... 83  
 189.-191. Reserved. .... 83

**PART 6. UNSCHEDULED AUDITS, EVALUATIONS, OR INVESTIGATIONS**

192. General. .... 83  
 193. Non-Scheduled CM Audits/Evaluations. .... 83  
 194. Other Random Investigations. .... 84  
 195.-197. Reserved. .... 85

**PART 7. PROVIDING GUIDANCE TO A PAH OR ASSOCIATE FACILITY**

198. General. .... 85

**APPENDIX 1. EVALUATION OF A PAH'S QUALITY CONTROL OR INSPECTION SYSTEM**

1. Purpose. .... 1  
 2. Data Review. .... 1  
 3. Data Approval/Acceptance Standards. .... 2

**APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9, RESOURCE TARGETING FACILITY ASSESSMENT SHEET**

1. Purpose. .... 1  
 2. Facility Assessment. .... 1  
 3. Facility Assessment Review. .... 3  
 4. Resource Targeting Group Assignment. .... 3  
     Figure 1. Sample FAA Form 8100-9 Entry Screen. .... 4  
     Figure 2. Sample FAA Form 8100-9. .... 5

*Paragraph**Page***APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA**

1. Purpose. ....	1
2. Specific Guidance. ....	1

**APPENDIX 4. CATEGORY PARTS LIST**

1. Purpose. ....	1
2. Category Parts List. ....	1
3. Structure of the CPL. ....	1
4. CPL Revision Process. ....	1
Figure 1. Sample Category Parts List. ....	2
Figure 2. CPL Revision Process Flowchart. ....	4
Figure 3. Sample Part Categorization Memo for Requesting an Addition to the CPL. ....	5
Figure 4. Sample Part Categorization Memo for Requesting a Change to the CPL. ....	6
Figure 5. Sample Part Categorization Memo for Requesting Removal of an Assembly/Part from the CPL. ....	7

**APPENDIX 5. RESOURCE TARGETING REPORTS**

1. Purpose. ....	1
2. Types of Reports. ....	1

**APPENDIX 6. RESOURCE TARGETING MODEL VALIDATION PLAN**

1. Purpose. ....	1
2. Resource Targeting Validations. ....	1

**APPENDIX 7. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-6, NONCOMPLIANCE RECORD**

1. Purpose. ....	1
2. Specific Guidance. ....	1
Figure 1. Sample FAA Form 8100-6. ....	5

**APPENDIX 8. PREPARATION INSTRUCTIONS FOR FAA FORM 8120-14, PRODUCTION APPROVAL/CERTIFICATE MANAGEMENT ACTIVITY REPORT**

1. Purpose. ....	1
2. Specific Guidance. ....	1
Figure 1. Sample FAA Form 8120-14. ....	3

*Paragraph*

*Page*

**APPENDIX 9. FORMS LISTING**

1.	Purpose. ....	1
	Figure 1. Forms Available from FAA Logistics Center. ....	1
	Figure 2. Forms Available in Electronic Format. ....	1



## CHAPTER 1. INTRODUCTION

**1. PURPOSE.** This order contains guidance related to production approvals and certificate management (CM) of manufacturers of type-certificated products, technical standard order articles, and replacement and modification parts, including Manufacturer's Maintenance Facilities established therein, to ensure fair and uniform administration of the pertinent Title 14 Code of Federal Regulations (14 CFR), part 21, Certification Procedures for Products and Parts (part 21).

**2. 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, Aircraft Certification field offices, and all Manufacturing Inspection District and Satellite Offices; to the Aircraft Certification and Airworthiness Branches at the FAA Academy; to the Suspected Unapproved Parts Program Office; to the Brussels Aircraft Certification Division; and to the Flight Standards Service Regulatory Support Division.

**3. CANCELLATION.** Federal Aviation Administration (FAA) Order 8120.2B, Production Approval and Surveillance Procedures, dated January 31 2001, is canceled.

**4. EFFECTIVE DATE.** Chapter 3, section 1, chapter 3, section 2, part 1 and parts 3 through 7, and chapter 3, section 3 are effective on October 1, 2002. All other provisions are effective as of the date of this directive. FAA managing offices will use the results of resource targeting described in chapter 3, section 2, part 2 to schedule the ongoing CM responsibilities described in chapter 3 of this order.

**5. EXPLANATION OF MAJOR CHANGES.** The following list identifies the significant changes contained in this revision:

- a. The procedures for CM and production approval have been divided into separate chapters.
- b. Several definitions have been added, revised, or deleted to reflect revised CM procedures.
- c. Ongoing and random CM have been more clearly defined.
- d. Resource targeting has been adopted as a CM tool, and will no longer be limited to Aircraft Certification Systems Evaluation Program (ACSEP) evaluation scheduling.
- e. A Category Parts List has been developed for use in performing resource targeting.
- f. The requirements that an initial ACSEP evaluation must have been performed and that the principal inspector (PI) must have performed on-site CM at the facility in the last 12 months prior to conducting a resource targeting assessment have been deleted.
- g. Resource targeting assessment of a new facility may now be based on information gathered during the district office audit.

**h.** The terms "finding" and "observation" have been replaced by the term "noncompliance." In addition, the process for identifying a noncompliance has been simplified.

**i.** FAA Form 8100-6, formerly known as Record of Findings/Observations, and FAA Form 8120-14, formerly known as Surveillance Activity Report, have been revised. In addition, the Production Subsystem Control File (referred to as FAA Form 8120-2) and the Production Certification Project Status Report (referred to as FAA Form 8120-6) have been removed from the FAA forms inventory since the relevant information is stored in the Manufacturing Inspection Management Information System (MIMIS).

**j.** The procedures for production approval have been gathered into one chapter and have been organized with common headings for easier reference. While the location of text may have changed, the associated production approval policy has not changed from the previous revision, except for minor editorial changes.

**6. ACRONYMS.** Acronyms used in this order are as follows:

<b>AC</b>	Advisory Circular
<b>ACSEP</b>	Aircraft Certification Systems Evaluation Program
<b>ACO</b>	Aircraft Certification Office
<b>APIS</b>	Approved Production Inspection System
<b>CAA</b>	Civil Aviation Authority
<b>CFR</b>	Code of Federal Regulations
<b>CPL</b>	Category Parts List
<b>CM</b>	Certificate Management
<b>CMO</b>	Certificate Management Office
<b>CMU</b>	Certificate Management Unit
<b>DO</b>	District Office
<b>DOA</b>	Delegation Option Authorization
<b>DMIR</b>	Designated Manufacturing Inspection Representative
<b>EEP</b>	Enhanced Enforcement Program
<b>FAA</b>	Federal Aviation Administration
<b>FIS</b>	Fabrication Inspection System

<b>FSDO</b>	Flight Standards District Office
<b>MIDO</b>	Manufacturing Inspection District Office
<b>MIO</b>	Manufacturing Inspection Office
<b>MISO</b>	Manufacturing Inspection Satellite Office
<b>MMF</b>	Manufacturer's Maintenance Facility
<b>MRB</b>	Material Review Board
<b>NDT</b>	Nondestructive Testing
<b>OAC</b>	Original Airworthiness Certification
<b>ODAR</b>	Organizational Designated Airworthiness Representative
<b>PAH</b>	Production Approval Holder
<b>PC</b>	Production Certificate
<b>PCB</b>	Production Certification Board
<b>PI</b>	Principal Inspector
<b>PLR</b>	Production Limitation Record
<b>PMA</b>	Parts Manufacturer Approval
<b>QC</b>	Quality Control
<b>RTA</b>	Resource Targeting Administrator
<b>SDR</b>	Service Difficulty Report
<b>STC</b>	Supplemental Type Certificate
<b>TC</b>	Type Certificate
<b>TSO</b>	Technical Standard Order

**7. DEFINITIONS.** For the purpose of this order, the following definitions apply:

**a. Article.** Materials, parts, and/or appliances produced under the provision of a Technical Standard Order (TSO) authorization. All references in this order to "parts thereof" include TSO articles, as applicable. An article as specified in § 21.143(a) (which includes any material, part, subassembly,

assembly, system, or appliance that is used in the type-certificated product) is referred to herein as a "part thereof."

**b. Associate Facility.** This is a facility that has been approved as an extension to an original production approval holder (PAH). This facility is owned and operated by the same corporate management as the original PAH that controls the design and quality of the product or part(s) thereof, except for companies participating in joint-production and/or co-production 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, e.g., Parts Manufacturer Approval (PMA) or TSO authorization (reference chapter 2, section 7 of this order).

**c. Audit.** A systematic and independent examination to determine compliance of an established supplier system, inspected product or part(s) thereof, or processes with purchase order requirements, technical data, or specifications.

**d. Category 1 Product or Part(s) Thereof.** A product or part(s) thereof whose failure could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations.

**e. Category 2 Product or Part(s) Thereof.** A product or part(s) thereof whose failure would not prevent continued safe flight and landing; resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.

**f. Category 3 Product or Part(s) Thereof.** A product or part(s) thereof whose failure would have no effect on continued safe flight and landing of the aircraft.

**g. Certificate.** A document (i.e., a certificate or approval) issued by the FAA that recognizes an applicant's or PAH's established quality control or inspection system and allows for the production of products or parts thereof in accordance with an FAA-approved design.

**h. Certificate Management.** The method by which the FAA ensures that a PAH remains in compliance with those pertinent regulations that govern the manufacturing of its particular products or parts thereof.

**i. Corrective Action.** The measures taken to resolve unsatisfactory conditions and to prevent reoccurrence.

**j. Days.** A reference to calendar days, unless otherwise specified.

**k. Distributor.** A broker, dealer, reseller, or other person or agency engaged in the sale of parts for installation in type certificated aircraft, aircraft engines, propellers, and in appliances.

**l. District Office.** The Manufacturing Inspection District Office (MIDO), and where applicable, the Manufacturing Inspection Satellite Office (MISO), Certificate Management Office (CMO), or Certificate Management Unit (CMU), having CM responsibility for a defined geographic area.

- m. Evaluation.** A systematic and independent examination of an established PAH or associated facility system based on the system elements defined in Order 8100.7.
- n. Foreign Manufacturer.** A person other than an FAA production approval holder who causes a product or part(s) thereof to be produced outside the United States.
- o. Group I Facility.** A PAH or associate facility identified by resource targeting as having the greatest potential to produce nonconforming products or parts thereof.
- p. Group II Facility.** A PAH or associate facility identified by resource targeting as having a moderate potential to produce nonconforming products or parts thereof.
- q. Group III Facility.** A PAH or associate facility identified by resource targeting as having a low potential to produce nonconforming products or parts thereof.
- r. Group IV Facility.** A PAH or associate facility identified by resource targeting as having little or no potential to produce nonconforming products or parts thereof.
- s. Inspection System.** The total network of administrative and technical data at an APIS or PMA holder required to control the product or part(s) thereof to the applicable CFR's.
- t. Internal Procedure.** A PAH's or associate facility's procedures that are not included as part of the FAA-approved data.
- u. Manufacturer.** A person as defined by 14 CFR part 1, Definitions and Abbreviations (part 1) who causes a product or part(s) thereof to be produced.
- v. Noncompliance.** A PAH's or associate facility's operating practice that is found to be inconsistent with the 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.
- w. On-going Certificate Management.** The performance of CM requirements based on resource targeting that may be accomplished on a continuing basis.
- x. Part(s) Thereof.** Any part, material, appliance, system, subassembly, assembly, or software used in a product.
- y. Production Approval.** An authorization, approval, or certificate issued by the FAA that allows a manufacturer to produce products or parts thereof in accordance with FAA-approved design and an FAA-approved quality control or inspection system.
- z. Production Approval Holder.** This is a holder of a PC, APIS, PMA, or TSO authorization who controls the design and quality of a product or part(s) thereof. [A person who has been issued a production approval by the FAA.]
- aa. Principal Inspector.** A manufacturing inspector who has been assigned CM responsibility of a particular PAH or associate facility.

**bb. Produce.** To manufacture, or cause to be manufactured, a product or part(s) thereof.

**cc. Product.** Aircraft, aircraft engine, or propeller.

**dd. Production Certification Board.** An FAA evaluation function consisting of a selected group of FAA specialists acting under the direction of the Production Certification Board (PCB) chairperson for the purpose of determining eligibility of the holder of a type certificate (TC) or supplemental type certificate (STC), or a licensee, for the issuance of a PC.

**ee. Quality Control Data.** Data that provides a description of the quality control system required by part 21 for a PC or TSO authorization holder. These data would encompass the methods, procedures, processes, inspections, tests, specifications, charts, lists, forms, etc., which the PAH employs to produce products or parts thereof.

**ff. Quality Control System.** The total network of administrative and technical data and detailed procedures at a PC or TSO authorization holder required to control the product or part(s) thereof to the applicable CFR's.

**gg. Random Certificate Management.** The performance of CM tasks that may be accomplished on an as-needed basis.

**hh. Random Sampling.** A sampling procedure that assures that each element in a population has an equal chance of being selected.

**ii. Resource Targeting.** A method of categorizing PAH's and associate facilities that provides for effective FAA CM resource deployment.

**jj. Root Cause.** The underlying cause of a systemic or recurring noncompliance, usually identified through structured analysis.

**kk. Satellite MMF.** A Manufacturer's Maintenance Facility (MMF) established at a location other than the location of the PAH or "parent" MMF. A satellite MMF shall be owned and controlled by the original PAH or "parent" MMF, and shall be located within the United States.

**ll. Specialist.** As related to the facility audit function of PC or Approved Production Inspection System (APIS) Boards, FAA manufacturing inspectors/supervisors or flight test, structures, systems, and/or equipment engineering personnel.

**mm. Supplier.** Any person, including a distributor, who furnishes parts or related services (at any tier) to an applicant, PAH, or another supplier.

**8. FORMS.** This order identifies several forms used for the evaluation, approval, and CM of production activities. Some of the forms are provided by AIR-200 in electronic format. Appendix 9, Forms Listing, provides a listing of the forms and their sources.

**9. RELATION TO OTHER DIRECTIVES.** Orders referenced in this directive list only the basic order number. It is the responsibility of the user to establish that the latest revision/amendments are being utilized.

**10. REQUESTS FOR INFORMATION.** All public requests for information regarding production approval or CM activities will be processed in accordance with the Freedom of Information Act. Refer to FAA Order 1200.23, Public Availability of Information. Any deficiencies found, clarifications needed, or improvements regarding the content of this order should be forwarded to the Aircraft Certification Service, Automated Systems Branch, AIR-520, Attention: Directives Management Officer, for consideration. FAA Form 1320-19, Directive Feedback Information, is located on the last page of this order for your convenience or you may obtain it electronically from the FAA web site. A copy may be forwarded to the Production and Airworthiness Division, AIR-200, Attention: Comments to Order 8120.2. If an interpretation is urgently needed, you may contact AIR-200 for guidance, but you should also use the Form 1320-19 as a follow up to each verbal conversation.

**11. AUTHORITY TO CHANGE THIS ORDER.** The issuance, revision, or cancellation of the material in this order is the responsibility of the Aircraft Certification Service, Production and Airworthiness Division, AIR-200. This division will accomplish all changes, as required, to carry out the agency's responsibility to provide for production approval and CM.

**12. 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 should ensure 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 U.S.C. § 2679.

**13. ELECTRONIC SIGNATURE.** The use of an electronic signature for the issuance of a Production Certificate and a Production Limitation Record, or a production approval letter (i.e., APIS, PMA, or TSO authorization), or an Air Agency Certificate (i.e., MMF) is not permitted.

**14. CONTINUOUS IMPROVEMENT PROGRAM.** The CM Continuous Improvement Program (CMCIP) is established to evaluate current CM policies and practices, identify difficulties and inconsistencies in implementation, and recommend improvements. A National Certificate Management Improvement Team (NCMIT) will be chartered by AIR-200. The NCMIT will include representatives from each directorate and AIR-200. All AIR personnel are strongly encouraged to provide recommendations for improvement of the CM program to their respective NCMIT representative.

**15.-19. RESERVED.**



## CHAPTER 2. PROCEDURES FOR ISSUING A PRODUCTION APPROVAL AND AN MMF CERTIFICATION

### SECTION 1. INTRODUCTION

**20. GENERAL.** This chapter provides guidance relative to the issuance of a production approval and an MMF certification. The following sections provide specific guidance for each of the production approval types, including extension of a production approval within the United States, and for an MMF. In general, each section describes the applicability of the production approval or MMF certification; the privileges of the approval or certificate holder; the advice that the FAA should be providing to the applicant; processing the application; and issuing the production approval or MMF certificate.

### SECTION 2. PRODUCTION UNDER A TYPE CERTIFICATE ONLY (PART 21, SUBPART F)

#### PART 1. GENERAL

**21. APPLICABILITY.** Part 21, subpart F, is applicable to a holder or licensee of a TC who desires to manufacture a complete product or part(s) thereof without benefit of a PC.

**22. PRIVILEGES.** A TC holder that manufactures a product in accordance with part 21, subpart F, is not granted any privileges. However, upon establishment of an APIS, the APIS holder is eligible to have a qualified employee(s) designated as a Designated Manufacturing Inspection Representative (DMIR) in accordance with the provisions of 14 CFR part 183, Representatives of the Administrator (part 183). The APIS holder may also be authorized by part 183 to represent the Administrator as an Organizational Designated Airworthiness Representative (ODAR). FAA Order 8100.8, Designee Management Handbook, contains procedures for the administration of DMIR's and ODAR's.

**23. ADVISING THE APPLICANT.** When production under the provisions of part 21, subpart F, is indicated, a TC applicant should be advised (during the preliminary TC Board) of the following:

**a.** AC 21-6, Production Under Type Certificate Only, sets forth an acceptable means of complying with part 21, subpart F. The FAA may approve alternative methods and procedures when the applicant can show the proposed methods or procedures will achieve compliance with part 21, subpart F.

**b.** The applicant's intentions should be documented with respect to production and submitted to the MIDO or CMO. This will allow the FAA to schedule inspections and evaluations at the earliest stages of establishment of the APIS.

**c.** The applicant should be encouraged to strive for a PC instead of an APIS. The following advantages of the PC should be emphasized:

(1) No requirement to submit FAA Form 8130-9, Statement of Conformity, for each completed product.

(2) Reduced FAA involvement, relative to conformity inspections and airworthiness certification.

(3) Issuance of airworthiness certificates and approvals for completed products without further showing.

(4) Issuance of export approvals for small aircraft without assembly or flight test.

d. FAA inspectors will conduct inspections and issue all of the necessary airworthiness certificates and approvals for a maximum period of six months, except as otherwise authorized after the date of issue of the TC. The applicant should also be advised that FAA personnel resources are limited and that delays may occur during the six-month period depending on the number of inspections and hours which may be necessary.

e. Subsequent to the six-month period (except as otherwise authorized), an APIS or PC must be obtained in order to continue production of the type-certificated product. Additionally, any products or part(s) thereof manufactured after the deadline date without FAA authorization may result in actions as defined in Order 2150.3, Compliance and Enforcement Program.

f. An APIS is based on compliance with those inspection standards specified in § 21.125. Furthermore, these standards along with any inspection system data submitted form the basis for all FAA CM activity.

g. The APIS holder is required to have process specifications, materials review board records, test procedures, and flight check forms that are acceptable to the FAA. It would be advantageous to the TC applicant to develop these data concurrently with the manufacture, inspection, and testing of prototypes of the product.

h. The TC holder or licensee who produces a completed product under part 21, subpart F, must flight test and/or functional test that product in accordance with the requirements of §§ 21.127, 21.128, or 21.129, as applicable.

(1) **Aircraft.** Each aircraft, both prior to and subsequent to the issuance of an APIS, must be flight tested in accordance with an approved production flight test procedure and flight checklist form as required by § 21.127.

(2) **Engines and Propellers.** Each engine or propeller, both prior to and subsequent to the issuance of an APIS, must be subjected to an acceptable test run or functional test in accordance with the requirements of § 21.128 or 21.129, as appropriate.

i. The applicant should be encouraged (although not required by rule) to submit (at the appropriate time) a description of the inspection system as evidence of compliance with § 21.125.

j. The applicant cannot utilize manufacturing facilities located outside the United States unless the FAA has determined that the location of the facilities places no undue burden on the FAA, as specified in § 21.43.

**k. TC Holder's Responsibility.**

(1) Prior to the issuance of an APIS, a TC holder or licensee who produces a product is responsible for complying with §§ 21.123, 21.127, 21.128, 21.129, and 21.130, as appropriate for the particular product involved.

(2) All products and parts thereof manufactured under the provisions of part 21, subpart F, must be marked in accordance with the requirements of 14 CFR part 45, Identification and Registration Marking (part 45).

(3) A TC holder or licensee is also responsible for reporting any failures, malfunctions, and defects as required by § 21.3.

**l. APIS Holder's Responsibility.** Upon the establishment of the APIS, the APIS holder is responsible for the actions listed in paragraph 23k above and the following actions:

(1) The APIS holder must submit a manual to the MIDO or CMO that describes the APIS and the means for making the determinations required by § 21.125(b).

(2) The APIS holder is responsible for maintaining the APIS in accordance with § 21.125 to ensure that each product conforms to the type design and is in a condition for safe operation. The APIS holder must also comply with any terms or conditions as prescribed in its APIS approval letter.

(3) The APIS holder is responsible for notifying the FAA of changes in the location of the manufacturing complex approved by the FAA for the particular type certificated product(s).

(a) The APIS is issued to the principal manufacturing facility that controls the design and quality of the product(s) for which the approval was granted. A mailbox address is not acceptable for a facility since the actual location must be identified. Such addresses, however, may be used as supplemental to the actual address when desired for such uses as corresponding to and from FAA offices.

(b) When the APIS holder moves the principal manufacturing facility to a new location, the APIS is no longer effective since an APIS is not transferable. If the APIS holder wants an APIS for the new location, the APIS holder must establish the APIS in accordance with § 21.123.

(c) When the APIS holder adds a new plant, the FAA must be notified of such changes. The FAA must then conduct a preliminary district office (DO) audit at the new plant and obtain satisfactory audit results before the facility can be approved for production.

## **PART 2. FAA ACTIONS DURING THE SIX-MONTH PERIOD**

**24. FAA CONFORMITY DETERMINATIONS.** Subsequent to the date of issuance of the TC and prior to the issuance of an APIS or PC, the MIDO or CMU has full responsibility for determining whether the product or part(s) thereof conform to the type design and are in a condition for safe operation. The MIDO or CMU must perform inspections of incoming materials (at the source, if necessary), installations, and the completed products. The MIDO or CMU must also document each inspection on FAA Form 8100-1, Conformity Inspection Record, so that each product or part(s) thereof inspected has a complete inspection record. Refer to figure 1 for a sample form.

**25. ASSESSING THE APPLICANT'S PROGRESS.** The MIDO or CMU should periodically assess the applicant's progress in complying with the regulations for obtaining approval of an APIS or PC. If it appears that the applicant is delaying this action or may not be eligible for an APIS or PC by the deadline date, the applicant should be advised in writing of all known deficiencies. Also, the applicant should be cautioned that after the deadline date, the FAA will not issue any airworthiness certificates or any other approvals unless an extension of the time period is authorized by the directorate manager. The MIDO or CMO should keep the directorate office apprised as to the applicant's progress.

**26. EXTENSION OF SIX-MONTH PERIOD.** The FAA may grant an extension when there are unusual or extenuating circumstances that preclude the establishment of an APIS or PC within the six-month limitation. The FAA should not grant an extension of the six-month period without giving due consideration to the impact the extension would have on FAA personnel resources and safety. In all instances, the FAA should consider an extension only when the applicant can substantiate the reasons for requesting such an extension. For example, extensions may be justified in those instances where products are in limited or infrequent production and for license and transfer of TC's that were issued more than six months prior to the licensing agreement or transfer. Refer to figure 2 for a sample extension letter.

**27. APIS OR PC NOT ESTABLISHED WITHIN SIX-MONTH PERIOD.** When an applicant fails to establish an APIS or PC by the end of the six-month period (except as otherwise extended), the FAA will no longer make conformity determinations and will discontinue the issuance of all airworthiness certifications and approvals. However, the FAA should continue to counsel and advise the applicant to the extent necessary to assist in obtaining an APIS or PC as soon as practicable.

## **PART 3. PROCESSING AN APPLICATION FOR AN APIS**

**28. APPLICATION.** When an applicant expresses a desire to apply for an APIS instead of a PC, the applicant should be advised that a formal application is not required by the regulations. However, the applicant may use FAA Form 8110-12, Application for Type Certificate, Production Certificate, or Supplemental Type Certificate, to apply for the APIS since it contains appropriate spaces to indicate whether or not production privileges are desired or whether or not parts will be manufactured for sale. Refer to figure 4 for a sample form.

**29. REVIEW OF PRODUCTION INSPECTION SYSTEM DATA.** Whenever an APIS applicant elects to submit production inspection system data as evidence of compliance with part 21, subpart F, the cognizant MIDO or CMU will evaluate these data in accordance with the criteria contained in appendix 1 of this order. Any inadequacies in the data submitted must be identified to the applicant for corrective action. After the data has been reviewed, and any applicable corrective actions taken, the



FIGURE 1. SAMPLE FAA FORM 8100-1, CONFORMITY INSPECTION RECORD (BACK)

<b>INSTRUCTIONS</b>	
<ol style="list-style-type: none"> <li>1. List the FAA assigned number along with date of TIA or Request for Conformity, as applicable.</li> <li>2. Self-explanatory.</li> <li>3. List the applicant or the manufacturer, or both. (The manufacturer may be the party producing or responsible for the product).</li> <li>4. List the date the inspection began.</li> <li>5. List the date the inspection ended.</li> <li>6. If inspecting an aircraft, list the make, model, N-number, and serial number. For an engine or propeller, list the make, model, and serial number.</li> <li>7. Aviation Safety Inspectors must type or print name, sign, and enter office identification. Designees must type or print name, sign, and list their designee identification number.</li> <li>8. Assign consecutive numbers for each item inspected.</li> <li>9. List the name or description of the part, appliance, assembly, drawing, document, specification, or name of the process being evaluated.</li> <li>10. List the technical data that describes the item listed in Block 9. i.e., drawing number, document number, or name of the process specification number, etc.</li> <li>11. List the revision level and date of the technical data described in Block 10.</li> <li>12. List the number of items that were determined satisfactory or unsatisfactory. Do not record individual characteristics. <b>NOTE:</b> (an item is a single article or unit containing one or more dimensional characteristics or features).</li> <li>13. Enter comments in this block that will support any information given in Blocks 8 through 12. i.e., unsatisfactory conditions, corrective actions taken, reference to other item numbers listed, serial numbers, type of inspection accomplished, destination of exported products, buyer finished equipment, parts processed through manufacturer's maintenance facility, part new or newly overhauled, condition of part or assembly, etc.</li> <li>14. To be used for supplementing items 1-13.</li> </ol>	<p><b>NOTE:</b> Unsatisfactory conditions are corrected in one of two ways:</p> <p><b>Method 1:</b> If action is presented to correct an unsatisfactory condition, the action is entered in Block 13 and the number in the UNSAT column of Block 12 is lined through and initialed. The number of items now determined satisfactory is entered in the SAT column next to the corrective action entry.</p> <p><b>Method 2:</b> If corrective action is not presented, the inspector may continue the inspection by entering the next item inspected. When corrective action to the unsatisfactory condition is eventually presented, assign the item a new number and record the number in Block 8. Complete Blocks 9 and 10, enter a new revision and date if data has changed, and enter the number of items determined satisfactory in Block 12. Record both the corrective action taken and the item number of the unsatisfactory condition in Block 13. Place the item number in parenthesis. Next, line through and initial the number in the UNSAT column located next to Block 13 containing the unsatisfactory condition. Record the corrective action entry item number along with the unsatisfactory condition statement and place the number in parenthesis.</p>
	<p>14. Continuation Block</p>

FAA Form 8100-1 (Back) (F-42)

**FIGURE 2. SAMPLE LETTER OF AUTHORIZATION FOR  
EXTENSION OF § 21.123(c) SIX-MONTH LIMITATION**

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
SOUTHWEST REGION  
ROTORCRAFT DIRECTORATE  
MANUFACTURING INSPECTION OFFICE  
2601 MEACHAM BOULEVARD  
FORT WORTH, TEXAS 76137-4298

May 10, 1999

Johnson Aircraft Corporation  
119 Standards Street  
Benbrook, Texas 12345

Attention: Mr. Nelson P. Norman, Vice President

Authorization for Extension of Production Under Type Certificate Only,  
Title 14, Code of Federal Regulations (CFR),  
Part 21, Certification Procedures for Products and Parts (part 21), Section 21.123(c).

Your request, dated April 28, 1999, regarding the subject matter has been reviewed and authorization is hereby granted to extend the period of time products may be manufactured under a Type Certificate Only without an approved production inspection system from June 1, 1999, to October 1, 1999.

This extension of time is based on the fact that you were unable to establish an approved production inspection system within the six-month period as required by Section 21.123(c) due to the four-month labor strike at your facility which ended April 15, 1999. Aircraft produced under the provisions of this authorization will continue to require inspection by FAA personnel at various stages of fabrication, processing, and assembly where detailed inspections can be conducted.

Johnson Aircraft Corporation must also continue to comply with part 21, subpart F, as applicable, including the requirements for a FAA Form 8130-9, Statement of Conformity, with each application for an airworthiness certificate.

Jason P. Hope  
Manager, Manufacturing  
Inspection Office, ASW-180

MIDO or CMO will accept the production inspection system data submitted by the applicant. The FAA does not approve this data since there is no part 21 requirement for submittal of this data for approval.

**30. PROVISIONAL APPROVAL PROCEDURES.** Evaluation of the applicant's inspection system should be accomplished by the MIDO or CMU, concurrent with conducting conformity inspections and making those airworthiness determinations required of the FAA prior to the issuance of an APIS. It is, therefore, to the advantage of the FAA to evaluate and provisionally approve the inspection system on a progressive basis. As portions of the system are determined to meet the regulatory requirements, the MIDO or CMU should:

- a. Maintain a record of those portions of the system considered satisfactory.
- b. Reduce conformity inspections to a spot-check basis for articles covered by the provisionally approved portion of the system.
- c. Place increased emphasis on securing corrective actions on the portions of the system where procedural discrepancies have been found or where the system has been found to be inadequate.

**31. PRELIMINARY DISTRICT OFFICE AUDIT.** When the MIDO or CMO has determined that the applicant has the capability to comply with § 21.125, the MIDO or CMO will conduct a DO audit as follows:

a. The DO audit evaluates the applicant's production facilities in accordance with the pertinent 14 CFR, the FAA-approved design data, and the production inspection system data accepted in paragraph 29 above. The cognizant MIDO or CMO manager will select a team to conduct this audit. The team may consist of the cognizant PI and at least one other manufacturing inspector or the MIDO/CMO manager. It is also recommended that an engineer be selected for the team when deemed necessary by the type and complexity of processes and procedures being utilized at the facility. The standardized evaluation criteria contained in Order 8100.7, Aircraft Certification Systems Evaluation Program, may be used as an aid to evaluate compliance. Team members should be advised, however, that some of the evaluation criteria contained therein may not be related to the pertinent 14 CFR, and therefore may only be evaluated as a best practice. This audit is not considered an ACSEP evaluation. Document noncompliances on FAA Form 8100-6, Noncompliance Record, or electronic equivalent. Refer to appendix 7.

b. **Notifying the Applicant.** Upon completion of the DO audit, the MIDO or CMO will formally notify the applicant as to any corrective actions necessary to comply with § 21.125. The MIDO or CMO should advise the applicant that an APIS Board will be scheduled that could result in a request for additional actions.

c. **Reporting.** The MIDO or CMU will prepare FAA Form 8120-14, Production Approval/Certificate Management Activity Report, or electronic equivalent, upon completion of the DO audit, and provisional approval of the applicant's inspection system when applicable. Forward the completed form to the directorate office, along with information concerning the applicant's ability to comply with § 21.125. Refer to appendix 8 for a sample Form 8120-14.

**32. APIS BOARD.** Upon receipt of Form 8120-14 and notification by the MIDO or CMO that the applicant is in a position to comply with § 21.125, the directorate office should schedule an APIS Board.

The primary objective of this board is to make a final determination as to whether or not the applicant has established a production inspection system that complies with § 21.125 and that is capable of producing products and parts thereof in conformity with the type design and in a condition for safe operation.

**a. Conduct of the APIS Board.** The directorate office shall conduct the APIS board in a manner similar to a PCB, including the use of a Chairman. Use the PCB procedures contained in chapter 2, section 3, part 3 of this order, as appropriate.

**b. APIS Board Minutes.** Document the APIS Board minutes in the same manner as a PCB, as applicable to the particular situation. Refer to paragraph 49 of this order.

#### **PART 4. ISSUANCE OF AN APIS**

### **33. APIS APPROVAL LETTER.**

**a. Preparation and Delivery.** When the APIS Board has determined and documented that the applicant's complete production inspection system complies with the requirements of part 21, subpart F, the directorate office will prepare a letter approving the production inspection system. Refer to figure 3 for a sample letter. Electronic signature is not permitted. The approval letter should be delivered to the manufacturer by the MIDO or CMO, or may be forwarded by certified mail when deemed most expeditious.

**NOTE: When an APIS is based on a licensing agreement that is for a specific period of time, the period of time must be indicated on the APIS approval letter.**

**b. Additions to the APIS.** If the APIS holder desires to add another type-certificated product or a new model to the APIS, the MIDO or CMO should evaluate any changes to the APIS that may be involved in the manufacture of the new product. Upon receipt of a completed Form 8120-14 and a satisfactory recommendation from the MIDO or CMO, the directorate office may then issue a superseding approval letter. The letter should be issued listing the original and the new product(s) and/or model(s). The APIS holder shall be requested to return the original letter. The directorate office will annotate the word "Superseded" on the original letter and retain it in the directorate files.

### **34.-40. RESERVED.**

**FIGURE 3. SAMPLE LETTER FOR APPROVING A  
MANUFACTURER'S PRODUCTION INSPECTION SYSTEM**

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
SOUTHWEST REGION  
ROTORCRAFT DIRECTORATE  
MANUFACTURING INSPECTION OFFICE  
2601 MEACHAM BOULEVARD  
FORT WORTH, TEXAS 76137-4298

November 4, 1999

GEM Aircraft Company  
711 Suburban Lane  
Oklahoma City, Oklahoma 73064

Production Inspection System Approval

Your production inspection system has been evaluated and found to be in compliance with applicable parts of Title 14 Code of Federal Regulations (14 CFR). Therefore, you are authorized to produce the following products and parts thereof in compliance with the standards contained in 14 CFR Part 21, Certification Procedures for Products and Parts, Subpart F, and in conformity with the type design data forming the basis for the following type certificate(s):

Type Certificate/Make/Model

1A25GEM1010	GEM	1020
1A78		

The following terms and conditions are applicable to this approval:

1. GEM Aircraft Company's production approval inspection system, methods, procedures, and manufacturing facilities, including your suppliers, are subject to FAA surveillance or investigations. Accordingly, GEM Aircraft Company must advise its suppliers that its facilities are also subject to FAA surveillance and investigation.
2. GEM Aircraft Company must make available to the FAA, upon request, any pertinent information concerning its suppliers who furnish parts/services, including:
  - a. A description of the part or service.
  - b. Where, and by whom, the part or service will undergo inspection;
  - c. Any delegation of inspection duties.

**FIGURE 3. SAMPLE LETTER FOR APPROVING A  
MANUFACTURER'S PRODUCTION INSPECTION SYSTEM (CONT'D)**

- d. Any delegation of materials-review authority.
  - e. Name and title of FAA contact at the supplier facility.
  - f. The inspection procedures required to be implemented.
  - g. Any direct shipment authority.
  - h. Results of GEM Aircraft Company evaluation, audit, and/or surveillance of its suppliers.
  - i. The purchase/work order number (or equivalent).
  - j. Any feedback relative to service difficulties originating at GEM Aircraft Company suppliers.
3. Parts or services furnished by suppliers located in a foreign country or jurisdiction may not be used in the production of the products listed in this approval unless:
- a. That part or service can and will be completely inspected for conformity at GEM Aircraft Company's facility; or
  - b. The FAA has determined that the location of the foreign supplier facility places no undue burden on the FAA in administering applicable airworthiness requirements. When the use of such foreign suppliers is contemplated, GEM Aircraft Company must advise the FAA at least 10 days in advance to allow the FAA to make this determination; or
  - c. The parts/services furnished by the foreign supplier are produced under the "components" provision of U.S. airworthiness bilateral agreements, and approved for import to the U.S. in accordance with Section 21.502.
4. This approval is not transferable to another person or location. In addition, it may be withdrawn for any reason that would preclude its issuance or at anytime the FAA finds that the approved production system is not being maintained. Also, the approval can be withdrawn if unsafe or nonconforming parts are accepted under the approved production inspection system; or if the Statement(s) of Conformity, FAA Form 8130-9, required by Section 21.130, is found to be invalid.
5. Our district office (address of cognizant office) must be notified within 10 days from the date that the address shown in this approval has been changed.
6. GEM Aircraft Company must maintain its approved production inspection system in continuous compliance with the requirements of Section 21.125, and ensure that each product or part(s) thereof conforms with the type design data and is in a condition for safe operation.

**FIGURE 3. SAMPLE LETTER FOR APPROVING A  
MANUFACTURER'S PRODUCTION INSPECTION SYSTEM (CONT'D)**

7. GEM Aircraft Company is eligible for the appointment of qualified individuals in its employ to represent the FAA as Designated Manufacturing Inspector Representatives for the purpose of issuing Airworthiness Approvals for Class I, II, and III products.

8. GEM Aircraft Company shall report to our district office, in a timely manner, information concerning service difficulties on any product(s) or part(s) thereof produced under this approval, in addition to any failures, malfunctions, and defects required to be reported in accordance with Section 21.3.

9. All pertinent technical data for the product(s) or part(s) thereof to be produced under this approval must be readily available to the FAA at the facility in which the parts are being produced.

10. GEM Aircraft shall notify our district office immediately in writing of any changes to the APIS that may affect the inspection, conformity, or airworthiness of the product(s) approved in this letter.

\* 11. GEM Aircraft Company shall produce all parts in accordance with GEM Aircraft Company Quality Control Manual, Revision G, dated July 17, 1996, which has been presented as evidence of compliance with Section 21.125. Accordingly, any revisions to these data must be submitted and approved by our district office prior to implementation.

Jack M. Safeway  
Manager, Manufacturing  
Inspection Office, ASW-180

**\*NOTE: Item 11 should only be prescribed when the applicant has voluntarily submitted inspection system data/procedures as evidence of compliance with § 21.125.**

## SECTION 3. PRODUCTION CERTIFICATE (PART 21, SUBPART G)

### PART 1. GENERAL INFORMATION

#### 41. APPLICABILITY.

a. Part 21, subpart G, is applicable to any of the following persons who desire to manufacture a complete product or part(s) thereof with benefit of a PC:

(1) The holder/licensee of a § 21.21 TC.

(2) The U.S. holder/licensee of a § 21.29 TC, so long as the licensing agreement clearly provides for the TC holder's and its Civil Aviation Authority's control over any design changes by the licensee. A working arrangement must also be in place between the Civil Aviation Authority (CAA) and the FAA defining their respective responsibilities as State of Design and State of Manufacture.

(3) The holder of an STC when the PC is used to incorporate the particular STC on completed aircraft prior to the issuance of an original airworthiness certificate (OAC). STC's incorporated after OAC are accomplished under the provisions of 14 CFR part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration (part 43). Also, STC holders who only desire to produce the modification parts/kit should be encouraged to apply for PMA.

(4) The holder/licensee of a § 21.25 TC, when the TC issuance was predicated on submittal (by the TC applicant) and the FAA approval of the type design data required by § 21.31.

b. A PC may not be issued to the holder of a TC issued under § 21.27, or part 21, subpart C (provisional).

c. A PC may not be issued if the manufacturing facilities are located outside the United States, unless it has been determined, in accordance with § 21.137, that such location(s) would place no undue burden on the FAA.

**42. PRIVILEGES.** A PC holder has the privileges specified in § 21.163. In addition, a PC holder is eligible to have a qualified employee(s) designated as a DMIR in accordance with the provisions of part 183. The PC holder may also be authorized by part 183 to represent the Administrator as an ODAR. Order 8100.8 contains procedures for the administration of DMIR's and ODAR's.

**43. ADVISING THE APPLICANT.** The applicant should be advised that:

a. AC 21-1, Production Certificates, sets forth an acceptable means of complying with part 21, subpart G. Alternative methods and procedures may be approved when the applicant can show that the proposed methods and procedures will achieve compliance with part 21, subpart G.

b. The data required to be submitted under § 21.143 should be arranged in the format suggested in AC 21-1. In those instances where an applicant has already established quality control (QC) procedures, e.g., for military contracts, the applicant must identify those portions that comprise the QC data that will be used to show compliance with § 21.143. The data may or may not comprise a lengthy document,

depending upon the size of the manufacturing facilities and product complexity. The data must include descriptive material that adequately covers each applicable paragraph of § 21.143. A title must be provided for positive identification and a revision page or similar control is required to ensure that the original approval date and the date of each revision is recorded. A number or letter must identify each revision.

**c.** The PC holder who produces a completed product under part 21, subpart G, must flight test and/or production test that product in accordance with the requirements of § 21.143(a)(3).

**(1) Aircraft.** All aircraft must pass an approved production flight test as part of the inspection procedure required for issuance of an airworthiness certificate. A Special Airworthiness Certificate, FAA Form 8130-7, issued for such purposes provides authorization for production flight testing (reference FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals). The exceptions would be small airplanes and gliders manufactured under a PC and being exported without assembly or flight test under the provisions of § 21.325(b). The intent of this rule is to permit shipment of aircraft without assembly or flight test when the extent of disassembly is the same as an aircraft that has been disassembled for shipment purposes. In these instances, the manufacturer must provide FAA-approved assembly and flight test procedures as a condition of shipment.

**(2) Periodic FAA Production Flight Tests.** FAA production flight tests will be conducted periodically at the PC holder's facility to ensure continued compliance with all parameters as specified in pertinent type certificate data with respect to performance, flight characteristics, operation qualities, equipment operations, etc. The PI in coordination with the flight test elements may arrange these flight tests. In addition, a determination should be made in coordination with flight test elements that the manufacturer's approved production test pilots are continuing to use approved procedures and that the approved procedures remain adequate.

**(3) Engines and Propellers.** Engines and propellers must pass a production test approved as part of the QC data required by § 21.143(a)(3).

#### **d. PC HOLDER'S RESPONSIBILITY.**

**(1)** The PC holder is responsible for maintaining the QC system in conformity with the data and procedures approved for the PC, and for determining that each completed product submitted for airworthiness certification or approval conforms to the TC and is in a condition for safe operation.

**(2)** Section 21.147 requires the holder of a PC to immediately notify the MIDO or CMO in writing of any changes that may affect the inspection, conformity, or airworthiness of the product. These changes would include:

**(a)** Relocation of a portion of its facility or addition to existing facilities.

*I* A PC holder's manufacturing complex would normally consist of a principal facility and all associate facilities using the same quality control system approved by the FAA, for the particular type certificated product(s). Associate facilities are discussed in section 7 of this chapter.

**2** The PC is issued to the principal manufacturing facility that controls the design and quality of the product(s) for which the approval was granted. The principal facility address will be listed under the "business address" and all associate facility addresses will be listed under "manufacturing facilities" on FAA Form 8120-4, Production Certificate. A mailbox address is not acceptable for a facility since the actual location must be identified. Such addresses, however, may be used as supplemental to the actual address when desired for such uses as corresponding to and from FAA offices.

**3** When a PC holder moves the principal manufacturing facility to a new location, the PC is no longer effective since a PC is not transferable. Refer to § 21.155. If the PC holder wants a PC for the new location, the PC holder must reapply in accordance with § 21.133.

**4** When the PC holder moves an associate facility or adds a new plant, the FAA must be notified of such changes in accordance with § 21.147. The new plant or moved facility must be subjected to a satisfactory DO audit before the facility can be approved for production. The PC must also be amended to reflect this change.

(b) Resumption of production after being discontinued for an extended period of time for other than normal periods of time, such as vacation periods.

(c) Significant curtailment/resumption of production operations.

(d) Significant reduction/reassignment of QC personnel.

(e) Changes or revisions to QC data and related procedures.

(3) All products and parts thereof produced under the provisions of part 21, subpart G, must be marked in accordance with the requirements of part 45, and in accordance with any related FAA-approved QC procedures, as applicable.

(4) The PC holder must report all failures, malfunctions, and defects as required by § 21.3. The PC holder should be encouraged (although not required by rule) to establish a procedure for such reporting.

## **PART 2. PROCESSING AN APPLICATION FOR A PC**

**44. APPLICATION.** Application for a PC is made on Form 8110-12. Refer to figure 4 for a sample form. The applicant must submit the application to the Manager, Manufacturing Inspection Office (MIO), in the directorate in which the applicant's principal manufacturing facility is located. Refer to paragraph 43d(2)(a)1 and 2 above. Upon receipt of a properly executed Form 8110-12, the MIO manager will forward a copy to the MIDO or CMO. The MIDO or CMO will prepare a letter of acknowledgement, advising the applicant that it has been authorized to initiate a DO audit to determine compliance with applicable regulations. A copy of the letter should be sent to the MIO. Refer to figure 5 for a sample letter.

**FIGURE 4. SAMPLE FAA FORM 8110-12, APPLICATION FOR TYPE CERTIFICATE, PRODUCTION CERTIFICATE, OR SUPPLEMENTAL TYPE CERTIFICATE**

No certificate may be issued unless a completed application form has been received (14 C.F.R.-21)

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION <b>APPLICATION FOR TYPE CERTIFICATE, PRODUCTION CERTIFICATE,                  OR SUPPLEMENTAL TYPE CERTIFICATE</b>		FORM APPROVED O.M.B. No. 04-R0078
1. Name and address of applicant ABC Aircraft Company 4954 Airport Drive Detroit, Michigan	2. Application made for - <input type="checkbox"/> Type Certificate <input checked="" type="checkbox"/> Production Certificate <input type="checkbox"/> Supplemental Type Certificate	3. Product Involved <input checked="" type="checkbox"/> Aircraft <input type="checkbox"/> Engine <input type="checkbox"/> Propeller
4. <b>TYPE CERTIFICATE</b> (Complete item 4a below)		
a. Model designation(s) (All models listed are to be completely described in the required technical data, including drawings representing the design, material, specifications, construction, and performance of the aircraft, aircraft engine, propeller which is the subject of this application.)		
5. <b>PRODUCTION CERTIFICATE</b> (Complete items 5a-c below. Submit with this form, in manual form, one copy of quality control data or changes thereto covering new products, as required by applicable FAR.)		
a. Factory address (if different from above)	b. Application is for - <input checked="" type="checkbox"/> New production certificate <input type="checkbox"/> Additions to production Certificate (Give P.C. No.)	P.C. No.
c. Applicant is holder of or a licensee under a Type Certificate or a Supplemental Type Certificate (Attach evidence of licensing agreement and give certificate number)	T.C./S.T.C. No. 1A26	
6. <b>SUPPLEMENTAL TYPE CERTIFICATE</b> (Complete items 6a-d below)		
a. Make and model designation of product to be modified		
b. Description of modification		
c. Will data be available for sale or release to other persons? <input type="checkbox"/> Yes <input type="checkbox"/> No	d. Will parts be manufactured for sale? (Ref. FAR 21.303) <input type="checkbox"/> Yes <input type="checkbox"/> No	
7. <b>CERTIFICATION</b> - I certify that the above statements are true.		
Signature of certifying official John J. Smith <b>John J. Smith</b>	Title Director, Quality Assurance	Date May 10, 1999

FAA Form 8110-12 (3-80) SUPERSEDES PREVIOUS EDITION (REPRESENTATION)

**FIGURE 5. SAMPLE PC APPLICATION ACKNOWLEDGEMENT LETTER**

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
TRANSPORT AIRPLANE DIRECTORATE  
SEATTLE MANUFACTURING INSPECTION DISTRICT OFFICE  
2500 EAST VALLEY ROAD, SUITE C-2  
RENTON, WASHINGTON 98055-4056

June 10, 1999

ABC Aircraft Company  
4954 Airport Drive  
Renton, Washington 12345

Production Certification Application Acknowledgement

This will acknowledge receipt of your application dated May 30, 1999, for a Production Certificate. This office has been authorized to initiate a preliminary evaluation of your manufacturing operations, quality control system, and testing procedures. The quality control data, required by Title 14 Code of Federal Regulations (14 CFR), Part 21, Certification Procedures for Products and Parts (part 21), section 21.143, and submitted with your application, were forwarded to this office for our utilization in determining compliance with applicable regulations.

Accordingly, your quality control system and manufacturing facilities (including any supplier facilities, as appropriate) will be evaluated by this office to determine compliance with part 21, subpart G. To preclude any misunderstandings, please notify your suppliers as soon as possible that they are subject to FAA evaluations. We will contact you in the near future to advise you of our evaluation schedule.

Subsequent to our preliminary evaluation, a Production Certification Board will be established to make a final determination as to eligibility for issuance of a Production Certificate. This will be accomplished as soon as practicable following our recommendations to the Manager, Manufacturing Inspection Office, Transport Airplane Directorate. You will be given adequate notice so that a date for convening the Production Certification Board at your principal facility can be mutually agreed upon.

Roger C. Moore  
Manager, ANM-108S

**45. PRELIMINARY DO AUDIT.** The MIDO or CMO should make arrangements to conduct a DO audit within 30 days after acknowledging the PC application. This audit will be conducted as follows:

**a.** Evaluate the applicant's QC data for compliance with § 21.143 using the criteria contained in appendix 1 of this order. Any inadequacies in the data submitted must be identified to the applicant for corrective action. After the data has been reviewed, and any applicable corrective actions taken, the MIDO or CMO will approve the quality control data submitted by the applicant. The approved QC data may be retained in the MIDO or CMO files.

**b.** Evaluate the applicant's production facilities in accordance with the pertinent 14 CFR, the FAA-approved design data, and the QC data approved in paragraph 45a above. The cognizant MIDO or CMO manager will select a team to conduct this audit. The team may consist of the cognizant PI and at least one other manufacturing inspector or the MIDO/CMO manager. It is also recommended that an engineer be selected for the team when deemed necessary by the type and complexity of processes and procedures being utilized at the facility. The standardized evaluation criteria contained in Order 8100.7 may be used as an aid to evaluate compliance. Team members should be advised, however, that some of the evaluation criteria contained therein may not be related to the pertinent 14 CFR, and therefore may only be evaluated as a best practice. This audit is not considered to be an ACSEP evaluation. Noncompliances will be documented on Form 8100-6, or electronic equivalent. Refer to appendix 7.

**c. Notifying the Applicant.** Upon completion of the DO audit, the MIDO or CMO will formally notify the applicant as to any corrective actions needed to comply with § 21.135. The applicant should be further advised that these items only represent the FAA's preliminary findings, and that additional requests for corrective actions can be anticipated as a result of subsequent findings which may be noted during the PCB evaluation.

**d. Reporting.** The MIDO or CMU will submit Form(s) 8100-6, marked "Preliminary," to the directorate office. Any unresolved items requiring corrective action should be identified and copies of letters to the applicant requesting corrective action shall be provided with the form.

### **PART 3. PRODUCTION CERTIFICATION BOARD**

**46. GENERAL.** The PCB is a high-level FAA evaluation function based directly upon the responsibilities established in Title 49 United States Code (49 USC), §§ 44701, 44702, 44704, and 44709.

**a. Purpose.** The purpose of the PCB is to evaluate the eligibility of the applicant for issuance of a PC based upon the preliminary findings and recommendations of the MIDO or CMO and the PCB's review of the applicant's facilities and QC data.

**b. Applicability.** The PCB should be convened only for initial production approvals, or when entire facilities have been relocated or are added to the PC. The PCB should not be convened for the addition of new models to the production limitation record (PLR) or relocation of a portion of the facility. In these instances, the procedures contained in paragraph 51b(1) of this order should be followed.

**c. PCB Members.** PCB members should consist of a group of qualified specialists from Airframe, Systems & Equipment, Propulsion, Manufacturing, and Flight Test functions, as appropriate. These members will assist in evaluating the applicant's production, engineering, flight test procedures, and other related functions. Representatives from Washington, DC, the Aeronautical Center, and/or other directorates may also participate in a PCB, when deemed desirable or necessary.

**d. PCB Chairman.** The MIO or CMO manager of the directorate where the manufacturing facility to be evaluated is located will act as the Chairman of the Board. When necessary, the MIO or CMO manager may delegate the chairmanship to the MIDO manager or other qualified directorate office personnel.

**47. PCB MEMBER RESPONSIBILITIES.** Specific PCB member responsibilities are as follows:

**a. PCB Chairman.** The PCB chairman is responsible for:

(1) Selecting and assigning board members, as deemed appropriate for the particular product, and notifying the members of the pending PC in sufficient time to permit adequate planning and preparation.

(2) Notifying the applicant of the PCB schedule and identifying members and their assignments.

(3) Selecting a representative number of the applicant's supplier facilities for evaluation to determine whether or not the applicant's QC system provides for satisfactory supplier control.

(4) Conducting pre/post PCB meetings with the PCB and/or the applicant.

(5) Reviewing and analyzing the PCB findings and ensuring that appropriate corrective actions have or will be taken.

(6) Completing, signing, and distributing the PCB minutes.

**b. Principal Inspector.** The PI, in coordination with the responsible MIDO or CMU having CM responsibility, and the PCB chairman, is primarily responsible for establishing schedules, making arrangements for meeting rooms, obtaining sufficient copies of QC data, and making all other arrangements necessary for convening and conducting the PCB in the most expeditious manner. The PI is further responsible for ensuring that the applicant has taken all agreed upon corrective actions, for preparing the minutes of the PCB, and for initiating and completing any enforcement actions, when applicable.

**c. Propulsion Section/Branch.** The propulsion section/branch is responsible for the evaluation and approval of the applicant's production engine/propeller test procedures, as required by § 21.143(a)(3). This effort will be coordinated with the responsible MIDO or CMU. Upon determining that the procedures are acceptable, a letter of approval will be prepared and forwarded to the applicant when a PC is issued. A copy of this approval letter will be included in the PCB minutes.

**d. Flight Test Section/Branch.** The flight test section/branch is responsible for evaluation and approval of the applicant's flight test procedures and checklists as required by § 21.143(a)(3). This effort will be coordinated with the responsible MIDO or CMU. Upon determining that the procedures and checklists are acceptable, a letter of approval will be prepared and forwarded to the applicant when a PC is issued. The letter will also include the names of those company pilots designated and authorized by the applicant to conduct production flight tests. A copy of this letter will be included in the PCB minutes.

**e. Other PCB Members.** Airframe and equipment engineering representatives and all other PCB members are responsible for ensuring that the applicant is in compliance with § 21.139, as appropriate to their particular assignment. Representatives from Washington, DC, the Aeronautical Center, and/or other directorates are responsible for acting in an advisory capacity and/or for the completion of any PCB activity assigned by the PCB chairman.

**48. CONDUCT OF THE BOARD.** A PCB is generally conducted in the following basic phases:

**a. Initial FAA Personnel Meeting.** Prior to arranging a Pre-Production Board meeting, a meeting of FAA personnel will be held for the purpose of reviewing the results of the initial audit, MIDO or CMO recommendations, and related correspondence between the FAA and the applicant. This meeting will also serve to plan the PCB audit, schedule subsequent meetings, and establish agenda items for the Pre-Production Board meetings.

**b. Pre-Production Board.** A Pre-Production Board meeting with the applicant's representatives should be considered upon receipt of the PC application. This meeting should include the Chairman, MIDO or CMO manager, the PI, and others as necessary. The purpose of this meeting is to advise the applicant as to the purpose of the Board and of the FAA's evaluation plans. It should be made clear to the applicant that the board is a fact-finding body convened to determine whether or not the applicant is in compliance with § 21.135. The applicant should also be advised that the PCB is responsible for making a thorough evaluation of the applicant's QC system/data, the organization, and the production facilities. Also, a determination should be made at this time that the location of the applicant's facilities will pose no undue burden on the FAA as specified in § 21.137.

**c. PCB Audit.** Following the Pre-Production Board meeting with the applicant, the PCB should evaluate the applicant's QC data and perform an on-site evaluation of the applicant's QC system, organization, production facility, and any suppliers, as deemed appropriate. Refer to paragraph 45 above for audit procedures.

**d. Internal FAA PCB Meetings.** Board meetings, attended by all board participants, will be conducted as needed to discuss and evaluate each unsatisfactory condition submitted by each member.

**e. Recording Unsatisfactory Conditions.** All unsatisfactory conditions will be recorded on Form(s) 8100-6 and 8120-14, or electronic equivalents. Refer to appendices 7 and 8 of this order.

**f. Final PCB Meeting.** A final meeting, attended by all PCB members and representatives of the applicant, will be held to advise the applicant of the PCB findings. Each unsatisfactory condition should be presented and discussed briefly.

**(1) Corrective Action.** In those instances where a product is being produced under a TC only, the PC applicant must be requested to commence immediate corrective action on those items that directly involve the product and related QC practices. A reasonable time may be allowed for correcting deficiencies in the QC data. However, the applicant must be advised that the PCB cannot recommend that a PC be issued unless all applicable regulations are complied with and until the MIDO or CMO has evaluated all corrective actions and found them to be satisfactory.

**(2) Formal Confirmation.** The applicant must also be advised that an official letter will be sent confirming the verbal presentation of the list of unsatisfactory conditions. This formal notification should be prepared by the PI for the signature of the Chairman of the Board, within ten working days following the final meeting with the manufacturer.

**(3) Violations.** If the PC applicant is manufacturing a product under a TC only, and any of the unsatisfactory conditions are determined to be violations to part 21, subpart F, appropriate enforcement actions should be initiated by the MIDO or CMO in accordance with FAA Order 2150.3.

**g. Final Phase of PCB.** The final phase of a PCB is the evaluation by the MIDO or CMO of the corrective action taken by the applicant. The results of the reinspection should be reported to the Chairman of the Board using Form 8120-14, or electronic equivalent. Refer to appendix 8 of this order.

**h. PCB Conclusion.** The MIDO or CMO will formally advise the applicant in writing, as soon as practicable, that a PC will be issued based on a showing of compliance to § 21.135, or that a PC will not be issued if there is failure to show compliance with § 21.135. A copy of the letter should be provided to the MIO.

**49. PCB MINUTES.** The MIDO or CMO shall prepare the PCB minutes for the signature of the Chairman. The minutes should encompass a concise record of the entire PCB proceedings, including the names and titles of all participants.

**a.** All correspondence relating to the PCB, including letters to the applicant, replies, etc., are considered to be part of the minutes and should be attached as appendices.

**b.** All Form(s) 8100-6 and 8120-14, or printed copy of electronic equivalent, should also be attached to the PCB minutes as a separate appendix. The MIDO or CMO should retain this appendix only until such time as satisfactory corrective actions have been accomplished (normally 60 days). The MIO or CMO may destroy its copy of this appendix at its discretion, but no sooner than 60 days after receipt.

**c.** The PCB minutes shall be stamped "FOR OFFICIAL USE ONLY" in accordance with FAA Order 1200.23, Public Availability of Information. Distribution shall be restricted within the FAA.

**d. Distribution of PCB Minutes.** The PCB minutes should be distributed as follows:

(1) Original to the directorate office involved.

(2) One copy to the cognizant MIDO or CMU that participated in the PCB.

**50. PCB ADJOURNMENT.** The PCB will be adjourned when the PCB minutes are accepted by the Chairman and distributed to the board members.

**PART 4. ISSUANCE OF PRODUCTION CERTIFICATE  
AND PRODUCTION LIMITATION RECORD**

**51. PREPARATION AND DELIVERY OF PC AND PLR.** Upon a finding by the PCB that the PC applicant's QC data/system, organization, and facilities comply with § 21.135, the MIDO or CMO will prepare Form 8120-4 and FAA Form 8120-3, Production Limitation Record, for the signature of the MIO Manager. Refer to figures 6 and 7 for sample forms. Signature authority for the PC and PLR may be delegated to the PCB Chairman. Electronic signature is not permitted. Delivery of the PC and PLR should be in person by the PI; however, if this procedure will result in an undue delay, the PC and PLR may be sent to the PC holder by certified mail. Whichever method of delivery is used, it is essential that the PC holder be advised of the PC display requirements and of the PC responsibilities by a letter. Refer to figure 8 for a sample letter. Copies of the PC, PLR, and the transmittal should be provided for MIO and responsible MIDO or CMO files.

**a. PC.** The PC shall be consecutively numbered within each directorate; e.g., PC-6CE would indicate that the PC was the sixth one issued by the Small Airplane Directorate. However, numbers issued prior to the date of this order need not be changed. Each directorate should establish and maintain a summary of PC's issued and a listing of changes made thereto.

**NOTE: When a PC is issued based on a licensing agreement that is for a specific period of time, it must be indicated on Form 8120-4 under "Duration."**

**b. PLR.** The PLR shall include the TC and model number of each product authorized for production, and the date that production was authorized.

**(1) Additions to the PLR.** If a PC holder desires to add a new TC, a new model, or a new process under an existing TC to the PLR, the PC holder must make application in the same manner as for the original issuance. In this instance, it is not normally necessary to establish a PCB. In place of the PCB, the MIDO or CMO should conduct an audit using the guidelines in paragraph 45, as appropriate, to determine whether the QC system is adequate or has been appropriately changed to ensure positive control of the product or process to be added to the PLR. When changes to the QC system are substantial, the PI may elect to request a nonscheduled ACSEP evaluation to make this determination. Refer to Order 8100.7. The MIDO or CMO having CM responsibility may issue revisions to the PLR to include new products or models, when authorized.

**(2) Deletions from the PLR.** Where production of a type-certificated product has been discontinued, and more than one TC is listed on the PLR, the following applies:

**(a)** If neither the complete product nor spare parts are being produced, the discontinued product or model should be deleted from the PLR. Upon issuance of the revised PLR, the MIDO or CMO shall request that the PC holder return the superseded PLR, which shall be marked "Superseded" and retained in the files. If no other products, models, or spare parts are covered by the PC, the PC holder shall be requested to return both the PC and PLR for cancellation. The MIDO or CMO will retain the canceled PC and PLR.

(b) If production of the complete product has ceased, but spare parts are still being produced, the PLR should be revised to reflect this. The MIDO or CMO should ensure that the PC holder remains in compliance with § 21.147 and will continue to advise the FAA of any changes in its organization, systems, procedures, or processes.

**(3) STC Modifications Incorporated by PC Holder.**

(a) When the holder of the TC obtains an STC, or is licensed to use another person's STC, the TC holder may amend the TC to incorporate the STC approval. An STC that is referenced in and becomes a part of the TC need not be shown on the PLR.

(b) When the PC holder of a TC obtains an STC, or related licensing agreement, but does not make the STC an integral part of the TC, the PC holder may incorporate the STC in production products prior to OAC approval, provided that:

*1* The PC holder makes application to the FAA to add the STC to its PLR.

*2* The QC data is revised as necessary.

*3* The engineering data submitted for the STC approval provides all the details necessary for manufacture and for making conformity determinations.

(c) When a PC holder elects not to use either of the foregoing methods, the TC holder may incorporate an STC modification into production products only after OAC, in accordance with the provisions of part 43.

**52.-55. RESERVED.**

**FIGURE 6. SAMPLE FAA FORM 8120-4, PRODUCTION CERTIFICATE**

This form is a representation of the original form and not to be construed as the original certificate.

**NOT FOR OFFICIAL USE**

*The United States of America  
Department of Transportation  
Federal Aviation Administration*

# Production Certificate

**Number 6CE**

**This certificate, issued to  
ABC AIRCRAFT COMPANY  
whose business address is  
4954 AIRPORT DRIVE  
KANSAS CITY, MISSOURI**

**and whose manufacturing facilities are located at  
752 PRIMROSE LAKE  
St. LOUIS, MISSOURI**

**authorizes the production, at the facilities listed above, of  
reasonable duplicates  
of airplanes  
which are manufactured in conformity with authenticated data,  
including, drawings, for which Type Certificates specified in the  
pertinent and currently effective Production Limitation Record were  
issued. The facilities, methods, and procedures of this  
manufacturer were demonstrated as being adequate for the  
production of such duplicates on date of 5 May, 1999.**

***Duration: This certificate shall continue in effect indefinitely,  
provided, the manufacturer continuously complies with the  
requirements for original issuance of certificate, or until the  
certificate is canceled, suspended, or revoked.***

**By direction of the Administrator**

**Date issued:**

**August 10, 1999**

**J.J. Jones . J. J. Jones**

**Manager, Manufacturing Inspection**

**Office**

***This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE  
LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF  
THE FEDERAL AVIATION ADMINISTRATION***

**Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years or both  
FAA FORM 8120-4 (12-69) SUPERSEDES FAA FORM 333**

**FIGURE 7. SAMPLE FAA FORM 8120-3, PRODUCTION LIMITATION RECORD**

This form is a representation of the original form and not to be construed as the original certificate.

**NOT FOR OFFICIAL USE**

*The United States of America  
Department of Transportation  
Federal Aviation Administration*

## *Production Limitation Record*

**The holder of  
Production Certificate No. 6CE  
may receive the benefits incidental to the  
possession of such certificate with respect to**

**AIRCRAFT  
(OR AIRCRAFT PROPELLERS,  
AIRCRAFT ENGINES, (S APPLICABLE))**

**manufactured in accordance with the data forming the  
basis for the following Type Certificate(s) No.**

Type Certificate	Model	Date Production Authorized
A 920CE	ABC 2047R	August 10, 1978
A 9CE	ABC 258D	August 10, 1978
STC 492CE	Drawing List HC-B2YK-6	August 10, 1978

(Note: Any number of columns may be used provided the material is neat and legible. Additional PLRs may be used when necessary. Additional PLRs shall be numbered "1 of 2," "2 of 2," as appropriate to the number of pages involved.)

**LIMITATIONS:**

(if any)

August 10, 1999  
**Date of issuance**

**By Direction of the Administrator**  
*J. J. Jones*  
J. J. Jones  
Manager, Manufacturing Inspection District Office

FAA FORM 8120-3 (7-67)

**FIGURE 8. SAMPLE PC TRANSMITTAL LETTER**

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
SMALL AIRPLANE DIRECTORATE  
MANUFACTURING INSPECTION OFFICE  
901 LOCUST STREET, ROOM 301  
KANSAS CITY, MISSOURI 64106-2641

August 12, 1999

ABC Aircraft Company  
4954 Airport Drive  
Kansas City, Missouri 12345

Production Certificate Transmittal

We are pleased to forward Production Certificate No. 6CE, dated August 10, 1999, together with its Production Limitation Record listing Type Certificate No. 5A25. These documents must be prominently displayed in the main office of your factory, as required by Title 14 Code of Federal Regulations (14 CFR), Part 21, Certification Procedures for Products and Parts (part 21), Section 21.161.

A Production Certificate authorizes the production of duplicates of specific type-certificated products and entitles the holder to certain privileges, including the option to obtain the appointment of a Designated Manufacturing Inspection Representative to issue airworthiness certificates and other related approvals. It should be noted that the issuance of a Production Certificate also places basic responsibilities upon the holder, as prescribed by 49 United States Code, Sections 44702(a) and 44704(b). The related rules are contained in part 21 and 14 CFR Part 45, Identification and Registration Marking. We suggest that copies of the aforementioned be made available to the appropriate personnel in your organization.

If at any time you have questions concerning your privileges or responsibilities relative to your Production Certificate, please contact either this office or our Manufacturing Inspection District Office (number and address).

James C. Grace  
Manager, Manufacturing Inspection  
Office, ACE-180

**(NOTE: When the PC and PLR are delivered in person, this letter should be suitably revised to reflect such delivery.)**

**SECTION 4. TECHNICAL STANDARD ORDER AUTHORIZATION (PART 21, SUBPART O)****PART 1. GENERAL INFORMATION**

**56. APPLICABILITY.** Part 21, subpart O, is applicable to a person who desires to manufacture an article that meets a specific TSO. The TSO authorization system does not apply to parts produced under a PMA, TC only, or a PC.

**57. PRIVILEGES.** A TSO authorization holder has the privileges specified in § 21.603. In addition, a TSO authorization holder is eligible to have a qualified employee(s) designated as a DMIR in accordance with the provisions of part 183. The TSO authorization holder may also be authorized by part 183 to represent the Administrator as an ODAR. Order 8100.8 contains procedures for the administration of DMIR's and ODAR's.

**58. ADVISING THE APPLICANT.** The applicant shall be advised that:

**a.** AC 21-1 sets forth an acceptable means of complying with part 21, subpart O. The FAA may approve alternative methods and procedures when the applicant can show that the proposed methods and procedures will achieve compliance with part 21, subpart O.

**b.** The applicant should arrange the data required for submittal to the FAA under § 21.605 in the format suggested by AC 21-1. In those instances where an applicant has already established QC procedures, e.g., for military contracts, the applicant must identify those portions that comprise the QC data that the applicant will use to show compliance with § 21.605. The data may or may not comprise a lengthy document, depending upon the size of the manufacturing facilities and product complexity. The data must include descriptive material that adequately covers each applicable paragraph of § 21.605. A title must be provided for positive identification and a revision page or similar control is required to ensure that the original approval date and the date of each revision is recorded. A number or letter must identify each revision.

**c.** A TSO authorization holder is a manufacturer who controls the design and quality of an article produced under the TSO system, including all related parts, processes, or services under the TSO system, including all related parts, processes, or services procured from outside sources.

**d.** A TSO design approval can be obtained only for the current TSO for the particular article.

**e.** A TSO article cannot be used on a type-certificated product unless a determination has been made that it is compatible with that particular product.

**f. TSO Authorization Holder's Responsibility.**

**(1)** The TSO authorization holder is responsible for maintaining the QC system in conformity with the data and procedures approved for the TSO authorization, and for determining that each completed article submitted for airworthiness approval conforms to the TSO and any terms or conditions prescribed in the TSO Letter of Authorization.

(2) The holder of a TSO authorization should immediately notify the MIDO in writing of any changes that may affect the inspection, conformity, or airworthiness of the product. These changes would include:

(a) Relocation of a portion of its facility or addition to existing facilities.

*1* A TSO authorization holder's manufacturing complex would normally consist of a principal facility and all associate facilities using the same quality control system approved by the FAA, for the particular TSO article(s). Associate facilities are discussed in section 7 of this chapter.

*2* The TSO is issued to the principal manufacturing facility that controls the design and quality of the article(s) for which the approval was granted. A mailbox address is not acceptable for a facility since the actual location must be identified. Such addresses, however, may be used as supplemental to the actual address when desired for such uses as corresponding to and from FAA offices.

*3* When a TSO authorization holder moves the principal manufacturing facility to a new location, the TSO authorization is no longer effective since a TSO authorization is not transferable. Refer to § 21.621. If the TSO authorization holder wants a TSO authorization for the new location, the TSO authorization holder must reapply in accordance with § 21.605.

*4* When the TSO authorization holder moves an associate facility or adds a new plant, the FAA should be notified of such changes. The new plant or moved facility must be subjected to a satisfactory DO audit before the facility can be approved for production.

(b) Resumption of production after being discontinued for an extended period of time for other than normal periods of time, such as vacation periods.

(c) Significant curtailment/resumption of production operations.

(d) Significant reduction/reassignment of QC personnel.

(e) Changes or revisions to QC data and related procedures.

(3) The TSO authorization holder must report all failures, malfunctions, and defects as required by § 21.3. The TSO authorization holder should be encouraged (although not required by rule) to establish a procedure for such reporting.

**(4) Identification Marking.** A TSO authorization holder is responsible for ensuring that only those articles that meet the applicable TSO performance standards are identified as required by § 21.603. Section 21.603(a) states in part that "...no person may identify an article with a TSO marking unless that person holds a TSO authorization and the article meets applicable TSO performance standards." The intent of § 21.603 is to address the identification of an article with its original TSO identification marking as required by § 21.607(d) at the time of manufacture.

**(a) Detail Parts and Invoice Identification.** When detail parts are produced for installation in a TSO article, individual detail parts of the TSO article sold separately must be

accompanied by a shipping document containing the information required by § 21.607(d) and shall identify the TSO assembly for which they are eligible.

**(b) Detail Parts and Design Data Identification.** TSO article markings required by §§ 21.603 and 21.607(d) are applied to the top-level assembly for which the original TSO authorization was granted, not subassemblies or individual detail parts. It is not required that each individual subassembly or detail part within the TSO article be marked. The TSO marking requirements for detail parts, which are sold by the original TSO authorization holder for installation into its related TSO articles, are found within the applicable design data for the TSO article. This provides traceability of the individual detail parts to their related TSO articles.

**(5) Reidentifying Marking.** Section 21.603 does not prohibit a certificated person, authorized under § 43.3, from modifying or replacing the original TSO identification marking in accordance with the TSO authorization holder's instructions (e.g., service letters, service bulletins, airworthiness directives, etc.) resulting from an FAA-approved design change. The following guidance applies to the incorporation of design changes to TSO articles that have left the manufacturer's quality control system that require reidentifying of the TSO articles.

**(a)** There are instances when the holder of a TSO authorization, or a letter of TSO design approval, changes a design and provides data so that these changes may be incorporated into articles in service, through alteration. Service bulletins, service letters, and airworthiness directives are common nomenclature for these types of data, but the data may be transmitted in any appropriate form. Regardless of whether the change is major or minor, as defined in § 21.611, it may be necessary and/or appropriate to reidentify the article.

**(b)** The reidentification procedure indicated in paragraph 58f(5)(a) above must be part of the FAA-approved data for the entire alteration. The identification markings must comply with the requirements of § 21.607 and the applicable TSO. Some of the reidentification methods expected include the following: making additional marks; making new marks and obliterating the old; installing a new data plate or label provided by the TSO authorization holder; or a combination thereof. Consideration should be given to minimizing confusion as to the status of the article and maximizing traceability to the maintenance and alteration records.

**(c)** Design changes introduced by persons other than the TSO authorization holder are permissible under § 21.611(c). Order 8150.1, Technical Standard Order Procedures, addresses the identification/marketing requirements of TSO articles that are modified by persons other than the TSO manufacturer.

**(6) Identification Marking of Replacement and Modification Parts Produced Pursuant to the Enhanced Enforcement Program (EEP) as Published in Federal Register Notice of February 27, 1995.** Parts produced under the EEP that subsequently were issued TSO authorizations were not eligible at the time of production and are ineligible for marking in accordance with § 21.607(d). Although parts produced under the authority of the EEP are not eligible for part marking, these parts were considered acceptable for sale/installation under the provisions of § 21.305(d). Section 21.305(d) allows parts to be approved in any manner approved by the FAA Administrator. Parts produced under the authority of the EEP continue to be acceptable subsequent to the expiration of the EEP.

## **PART 2. PROCESSING AN APPLICATION FOR A TSO AUTHORIZATION**

### **59. APPLICATION.**

**a.** An applicant (or an applicant's authorized agent) must submit an application for a TSO authorization by letter to the Manager, Aircraft Certification Office (ACO), in the region in which the applicant's principal manufacturing facility is located. The applicant must submit, along with the application, those documents required by § 21.605, which includes:

- (1)** A statement of conformance.
- (2)** A copy of the technical data.
- (3)** A description of the QC system in the detail specified in § 21.143.

**b.** A foreign manufacturer who desires to obtain a TSO letter of design approval (as provided for in § 21.617) must submit an application through its CAA to the ACO (or equivalent) that has cognizance over the geographical area in which the foreign manufacturer is located.

**60. DESIGN APPROVAL.** Guidance concerning TSO design approval methods is contained in part 21, subpart O, and the applicable TSO.

**61. PRELIMINARY DO AUDIT.** At the request of the ACO, the MIDO should make arrangements to conduct a DO audit, within the deadline established by the ACO. This audit will be conducted as follows:

**a.** Evaluate the applicant's QC data for compliance with § 21.143 using the criteria contained in appendix 1 of this order. The data must include an acceptable test procedure to which each production article will be tested. Any inadequacies in the data submitted must be identified to the applicant for corrective action. After the data has been reviewed, and any applicable corrective actions taken, the MIDO will approve the quality control data submitted by the applicant. The approved QC data may be retained in the MIDO files.

**b.** Evaluate the applicant's production facilities in accordance with the pertinent 14 CFR, the FAA-approved design data, and the QC data approved in paragraph 61a above. The cognizant MIDO manager will select a team to conduct this audit. The team may consist of the cognizant PI and at least one other manufacturing inspector or the MIDO manager. It is also recommended that an engineer be selected for the team when deemed necessary by the type and complexity of processes and procedures being utilized at the facility. The standardized evaluation criteria contained in Order 8100.7 may be used as an aid to evaluate compliance. Team members should be advised, however, that some of the evaluation criteria contained therein may not be related to the pertinent 14 CFR, and therefore may only be evaluated as a best practice. This audit is not considered to be an ACSEP evaluation. Record all noncompliances on Form(s) 8100-6 and 8120-14, or electronic equivalent. Refer to appendices 6 and 7 of this order.

**c. Reporting.** The MIDO will advise the ACO concerning the results of the DO audit. Any unresolved items requiring corrective action should be identified and copies of letters to the applicant requesting corrective action shall be provided.

### **PART 3. ISSUANCE OF A TSO AUTHORIZATION OR LETTER OF TSO DESIGN APPROVAL**

**62. TSO LETTER OF AUTHORIZATION.** Upon a showing of compliance with part 21, subpart O, a letter will be issued by the cognizant ACO in accordance with established procedures. Electronic signature is not permitted. This letter should be amended, as appropriate, to reflect subsequent additions to a manufacturer's original TSO authorization.

**63. LETTER OF TSO DESIGN APPROVAL.** A letter of TSO design approval for an import appliance may be issued to a foreign manufacturer located in a country with which the United States has a bilateral agreement that provides for the reciprocal acceptance of appliances, providing the following criteria are met:

**a.** The CAA of the country in which the appliance will be manufactured certifies to the FAA that the design of the particular appliance meets the pertinent design requirements of the specific TSO.

**b.** The CAA is advised that each appliance produced under the provisions of the TSO design approval and exported to the United States must be accompanied by a certificate of airworthiness for export as specified in § 21.502.

**64.-67. RESERVED.**

**SECTION 5. PARTS MANUFACTURER APPROVAL (SPECIAL GUIDANCE)**

**68. GENERAL.** The guidance relative to the issuance of a PMA is located in FAA Order 8110.42, Parts Manufacturer Approval Procedures. The subjects and procedures in this chapter provide supplemental guidance to that order.

**69. MARKING DETAIL PARTS OF PMA ASSEMBLIES.** PMA part markings required by § 45.15 are applied to the top-level assembly for which the original PMA was granted, not subassemblies or individual detail parts. For example, if the PMA were approved for a thrust reverser, the PMA marking would be affixed to the completed assembly. It is not required that each individual subassembly or detail part within the assembly be marked with FAA-PMA, unless it is being produced under its own PMA. If a PMA is granted for an assembly, individual detail parts of the assembly sold separately must be accompanied by a shipping document containing the information required by § 45.15 and shall identify the PMA assembly for which they are eligible. The part marking requirements for detail parts, which are sold by the original PMA holder for installation into its related PMA assemblies, are found within the applicable design data for the assembly. This provides traceability of the individual detail parts to their related PMA assemblies.

**NOTE: The information in paragraph 69 above supplements Order 8110.42, Applicant Responsibilities, Part Marking Requirements.**

**70. IDENTIFICATION MARKING OF REPLACEMENT AND MODIFICATION PARTS PRODUCED PURSUANT TO THE ENHANCED ENFORCEMENT PROGRAM (EEP) AS PUBLISHED IN FEDERAL REGISTER NOTICE, FEBRUARY 27, 1995.** Section 45.15 states that each person who produces a replacement or modification part under a PMA issued under § 21.303 shall permanently and legibly mark the part. Parts produced without a PMA, such as parts produced under the EEP, were not produced under § 21.303 and therefore are not eligible for marking in accordance with § 45.15. Although parts produced under the authority of the EEP are not eligible for part marking, these parts were considered acceptable for sale/installation under the provisions of § 21.305(d). Section 21.305(d) allows parts to be approved in any manner approved by the FAA Administrator. Parts produced under the authority of the EEP continue to be acceptable subsequent to the expiration of the EEP.

**71.-75. RESERVED.**

**SECTION 6. MANUFACTURER'S MAINTENANCE FACILITY  
(PART 145, SUBPARTS A AND D)**

**PART 1. GENERAL INFORMATION**

**76. APPLICABILITY.** Part 145, subparts A and D, is applicable to a PAH who desires to perform maintenance and preventive maintenance on any article manufactured by it, at any service facility or other location within the United States.

**77. PRIVILEGES.** A PAH located in the United States and its possessions that qualifies under § 145.101(a) is entitled to a repair station certificate with a limited rating without further showing. The PAH is entitled to one certificate for each basis of qualification listed in § 145.101(a). A single certificate with multiple ratings may be issued, if acceptable to the applicant.

**78. ADVISING THE APPLICANT.**

**a.** The following CFR parts provide information pertinent to the MMF: 43; 65, subpart E; 91, subpart C; 121, subpart L; 125, subpart G; 127, subpart I; 135, subpart J; and 145.

**b.** The MMF is limited to products for which a production approval is held. For example, a holder of a PC for aircraft could perform inspections on engines and such other work as would normally be done under an aircraft PC on the engines (buildup, necessary adjustments, etc.). A certificated repair station under § 145.11 would be required for engine work beyond that normally done under an airframe PC and performance of inspections (annual, 100-hour, and progressive).

**c.** The holder of an MMF can maintain, approve for return to service, and perform preventive maintenance on products for which it is rated, if certificated mechanics or repairmen are directly in charge of maintenance and preventive maintenance. This may require larger organizations to have certificated mechanics or repairmen in several areas of the facility to be directly in charge of the maintenance. The facility recommends the employees for repairmen certification and submits the application to the MIDO or CMO having CM responsibility of the MMF. However, repairmen certification is accomplished by the Flight Standards District Office (FSDO). The FSDO representative may interview the applicant regarding experience, training, and other aspects of the application.

**d.** The MMF records should be retained in accordance with the PAH's record retention schedule. The content, form, and disposition of maintenance, preventive maintenance, rebuilding, and alteration records are contained in detail in § 43.9. The content, form, and disposition of the records for inspections conducted under other 14 CFR parts are contained in detail in § 43.11.

**e.** Although not required by regulation, PAH's have found it advantageous to describe the MMF operation in a procedure referenced or contained in its quality control or inspection manual. This procedure is for the convenience of the PAH's personnel and the use of the FAA inspector.

**PART 2. PROCESSING AN APPLICATION FOR AN MMF**

**79. APPLICATION.** A letter of application may be submitted by the applicant to obtain a repair station certificate for an MMF. The MMF may be issued without further showing.

**80. REPAIRMEN CERTIFICATION.** Repairmen certification is accomplished by the FSDO. Reference FAA Order 8300.10, Airworthiness Inspector's Handbook, Volume 2, Chapter 24. The facility recommends the employees for repairmen certification and submits the application to the MIDO or CMO having CM responsibility of the MMF. Since the PI is most familiar with the MMF operations, the PI will:

**a.** Review the application and make a recommendation concerning the applicant's ability to act as a repairman.

**b.** Forward the application and recommendation to the FSDO. The FSDO representative reviews the application and may interview the applicant regarding experience, training, and other aspects of the application. The FSDO representative makes the final approval/disapproval decision on the applicant. The certificate is then forwarded back to the MIDO or CMO PI, for presentation to the MMF.

### **PART 3. ISSUANCE OF THE MMF CERTIFICATE**

**81. AIR AGENCY CERTIFICATE.** FAA Form 8000-4, Air Agency Certificate, should be prepared as shown in figure 9 of this order and the following instructions:

**a. Number.** An alphanumeric number will be assigned by the local MIO/MIDO/CMO beginning with the three-letter designator for the directorate (i.e., ACE, ANE, ANM, or ASW). The next three numbers will represent the MIO/MIDO/CMO office (e.g., 180, 041, 042, etc.). The last three numbers will be assigned sequentially (e.g., 001, 002, 003, etc.). A MISO requiring issuance of an MMF should request a number from the cognizant MIO/MIDO.

**b. Issued To.** Enter the name of the manufacturer as it appears on the FAA production approval.

**c. Business Address.** Enter the location AS SPECIFIED BY THE APPLICANT. This location is limited to the United States and its possessions. If there are satellite MMF's, their locations will also be listed on Form 8000-4, or on an addendum to the certificate.

**NOTE: Section 145.103(b) provides that the privileges granted an MMF may be limited to a specific location or facility. Past experience with or conduct of a particular manufacturer may make it necessary, for safety reasons, to restrict the repair privileges to a specific location or facility. When such a restriction is imposed, the restriction and justification should be provided to the Manager, Production and Airworthiness Division, AIR-200, because of the possible impact on national and international relations.**

**d. Ratings.** Limited ratings are issued for certification of an MMF. The rating issued shall be determined from the information furnished by the applicant in the letter of application. One or more of the following limited ratings is to appear on the face of Form 8000-4. Replace the word "aircraft" with "engine" or "propeller," as appropriate, in the following proposed language to be entered on the form:

**(1) LIMITED AIRCRAFT. AIRCRAFT MANUFACTURED BY THE HOLDER OF THE RATING UNDER PRODUCTION CERTIFICATE NO. XXX.**

**FIGURE 9. SAMPLE FAA FORM 8000-4, AIR AGENCY CERTIFICATE**

This form is a representation of the original form and not to be construed as the original certificate.  
**NOT FOR OFFICIAL USE**

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

# *Air Agency Certificate*

**Number** ACE-180-001

**This certificate is issued to**

AJAX AIRCRAFT CORPORATION

**whose business address is**

REAGAN NATIONAL AIRPORT

WASHINGTON, DC

**upon finding that its organization complies in all respects**

**with the requirements of the Federal Aviation Regulations**

**relating to the establishment of an Air Agency, and is**

**empowered to operate an approved**

*Sample*

MANUFACTURER'S MAINTENANCE FACILITY

**With the following ratings:**

LIMITED AIRCRAFT. AIRCRAFT MANUFACTURED BY THE HOLDER OF THE RATING UNDER PRODUCTION CERTIFICATE NO. \*\*3.

**This certificate, unless canceled, suspended, or revoked, shall continue in effect** INDEFINITELY.

**By direction of the**

**Administrator**

**Date issued :**

September 8, 1999

JOHN L. SMITH    John L. Smith

**Manager, Manufacturing Inspection District Office**

This Certificate is not Transferable, AND ANY MAJOR CHANGE IN THE BASIC FACILITIES, OR IN THE LOCATION THEREOF, SHALL BE IMMEDIATELY REPORTED TO THE APPROPRIATE REGIONAL OFFICE OF THE FEDERAL AVIATION ADMINISTRATION

*Any alteration of this certificate is punishable by a fine of not exceeding \$1,000 or imprisonment not exceeding 3 years, or both*

FAA Form 8000-4 (1-67) SUPERSEDES FAA FORM 390

(2) LIMITED AIRCRAFT. AIRCRAFT MANUFACTURED BY THE HOLDER OF THE RATING UNDER A TYPE CERTIFICATE WITH AN APPROVED PRODUCTION INSPECTION SYSTEM.

(3) LIMITED PARTS. PARTS MANUFACTURED BY THE HOLDER OF THE RATING UNDER A FEDERAL AVIATION ADMINISTRATION PARTS MANUFACTURER APPROVAL LETTER.

(4) LIMITED APPLIANCE. APPLIANCES MANUFACTURED BY THE HOLDER OF THE RATING UNDER A FEDERAL AVIATION ADMINISTRATION TECHNICAL STANDARD ORDER LETTER OF AUTHORIZATION.

e. The MIDO manager will sign and date Form 8000-4. Electronic signature is not permitted.

f. Obliterate the words "and any major change in the basic facilities or in the location thereof, shall be immediately reported to the appropriate directorate office of the FAA" at the bottom of the form using black ink or marker.

**82.-84. RESERVED.**

## **SECTION 7. EXTENSION OF A PRODUCTION APPROVAL WITHIN THE UNITED STATES**

### **PART 1. GENERAL INFORMATION**

**85. APPLICABILITY.** The procedures in this chapter are applicable to a PC, PMA, or TSO authorization holder who desires to extend its production approval to another facility, referred to herein as an associate facility.

**86. PRIVILEGES.** An associate facility has the same privileges as the original PAH, unless the original PAH or the FAA withholds specific privileges. If authorized by the original PAH, the associate facility can request from its MIDO or CMU the appointment of DMIR's and/or appointment as an ODAR. Order 8100.8 contains procedures for the administration of DMIR's and ODAR's.

#### **87. ADVISING THE ORIGINAL PAH AND THE ASSOCIATE FACILITY.**

**a.** A PC, PMA, or TSO authorization holder can request the FAA to extend its production approval to another facility, referred to herein as an associate facility. To be approved, the associate facility must:

(1) Be located within the United States.

(2) Be owned and controlled by the original PAH that controls the design and quality of the product or part(s) thereof, except for companies participating in joint-production and/or co-production business agreements.

(3) Use a quality control or inspection system that has been approved by the original PAH.

(4) For a PMA or TSO authorization holder, produce the same part thereof and to the same extent as the original PAH.

**b.** When the associate facility produces the complete product or part(s) thereof and meets the applicable 14 CFR eligibility requirements for the type of production approval, it should be encouraged to obtain a separate production approval. The PAH would benefit from a separate approval because the FAA offices would not need to coordinate production approval extensions.

**c.** All correspondence intended for the original PAH shall be from or routed through the MIDO or CMO that has CM of the original PAH.

#### **d. Original PAH's Responsibilities.**

(1) Implement its QC system or fabrication inspection system (FIS) at the associate facility or approve the QC system or FIS used by the associate facility.

(2) If the approval or acceptance of changes is retained by the original PAH, the associate facility should be required to submit all proposed changes to the originally approved FIS or QC manual to the PAH for acceptance or approval.

**e. Associate Facility's Responsibilities.**

(1) Communication with the FAA will be with the MIDO or CMU having geographical responsibility of the area in which the associate facility is located.

(2) The associate facility will comply with the QC system or FIS of the original PAH or the QC system or FIS approved by the original PAH.

(3) If the approval of changes to the QC or FIS manual is retained by the original PAH, the associate facility will submit proposed changes to the original PAH for approval.

(4) If the approval of changes to the QC or FIS data is delegated to the associate facility, the associate facility will submit changes to its MIDO or CMU.

**PART 2. PROCESSING A REQUEST FOR EXTENSION OF A PRODUCTION APPROVAL**

**88. REQUEST FOR EXTENSION OF A PRODUCTION APPROVAL.** The original PAH can request an extension of its production approval to an associate facility. The extension application will be submitted to the original PAH's MIDO or CMO. The request shall contain the following information:

- a. The location of the associate facility.
- b. The type and extent of activities to be performed at the associate facility.
- c. Any special conditions of the request, such as the delegation or withholding of delegation of material review board (MRB) authority or designee privileges.
- d. A point of contact at the associate facility.

**89. EVALUATING THE REQUEST.** The MIDO or CMO of the original PAH shall evaluate the request for extension and determine if:

- a. The location of the associate facility is adequately described.
- b. The PAH's QC system or FIS is adequate to control the design and quality of the products and parts thereof produced at the associate facility, or the original PAH has reviewed and approved the associate facility's QC system or FIS.
- c. The request states explicitly the type and extent of production to be accomplished at the associate facility.
- d. Any special conditions of the extension apply (e.g., delegation or nondelegations of MRB authority).

**90. COORDINATION WITH THE GEOGRAPHIC MIDO OR CMO.** Following the evaluation of the request from the original PAH, the MIDO or CMO will contact the MIDO or CMU having geographic responsibility of the area in which the associate facility is located. The MIDO or CMO will:

- a. Submit a letter to the geographic MIDO or CMU informing it of the request, a copy of the extension request and the evaluation results.
- b. Request the geographic MIDO or CMU to perform an initial audit.
- c. Arrange for the following to be addressed:
  - (1) Reporting of initial audit findings.
  - (2) Reviewing changes to QC or FIS manual.
  - (3) Compliance and enforcement actions.
  - (4) Submittal of correspondence.

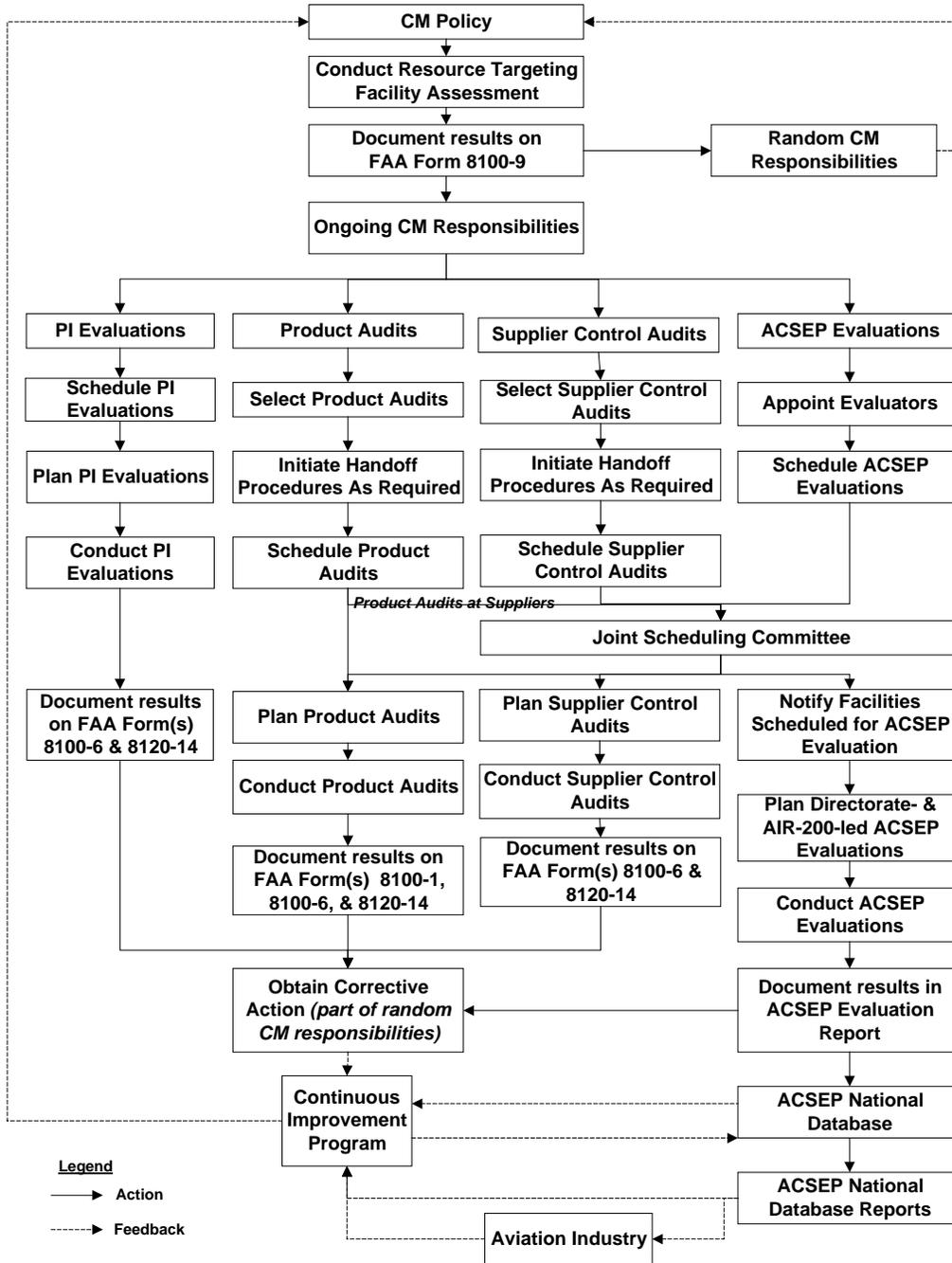
### **PART 3. APPROVAL OF THE REQUEST FOR EXTENSION OF A PRODUCTION APPROVAL**

**91. APPROVAL OF THE REQUEST.** After satisfactory completion of the initial audit, approve the request and notify the original PAH. Ensure the original PAH provides the MIDO or CMO of the associate facility a copy of the QC or FIS data to be used if not available at the associate facility. Issue to the original PAH an amended PC or an amended PMA approval letter. For a TSO authorization holder, request that the ACO issue a revised TSO authorization. The amended production approval authorization shall list the associate facility as a manufacturing location. A copy of the amended production approval authorization will be sent to the MIDO or CMO of the associate facility.

**92. GEOGRAPHIC MIDO RESPONSIBILITY AFTER APPROVAL OF THE REQUEST FOR EXTENSION.** The geographic MIDO will perform CM at the associate facility in accordance with chapter 3 of this order.

**93.-95. RESERVED.**

**FIGURE 10. CERTIFICATE MANAGEMENT LIFE CYCLE PROCESS**



## CHAPTER 3. CERTIFICATE MANAGEMENT PROCEDURES

### SECTION 1. INTRODUCTION

**96. GENERAL.** This chapter provides guidance on the method by which manufacturing inspection ensures that PAH's and associate facilities remain in compliance with those pertinent regulations that govern the manufacturing of their particular products or parts thereof, as required by 49 USC § 44713. This method is known as certificate management. Certificate management responsibilities for a PAH or an associate facility will be accomplished by the MIDO or CMU having responsibility of the geographic area in which the PAH or associate facility is located. Certificate management is comprised of the following two functional responsibilities, each of which is further detailed in sections 2 and 3 of this chapter. Figure 10 of this chapter depicts the CM life cycle process.

**a. ONGOING CM RESPONSIBILITIES.** The MIDO, MISO, or CMU responsible for a specific PAH or associate facility within its geographical boundaries accomplishes the following tasks on a continuing basis. Any tasks required to be scheduled and conducted at a supplier facility located in another geographical area should be handled in accordance with paragraph 97 below.

(1) Schedule and conduct resource targeting assessment of PAH's and associate facilities to identify any increased potential for producing nonconforming products or parts thereof.

(2) Schedule and conduct PI and ACSEP evaluations at PAH's and associate facilities based on resource targeting assessments.

(3) Schedule and conduct supplier control audits to determine that PAH's and associate facilities are satisfactorily controlling their suppliers.

(4) Schedule and conduct product audits on production products or part(s) thereof.

**b. RANDOM CM RESPONSIBILITIES.** The following tasks are accomplished on an as-required basis by the MIDO, MISO, or CMU responsible for a specific PAH or associate facility within its geographical boundaries. Any tasks required to be scheduled and conducted at a PAH or supplier facility located in another geographical area should be handled in accordance with paragraph 97 below.

(1) Evaluate changes to a PAH's or associate facility's quality control or inspection system that may affect the inspection, conformity, or airworthiness of the product or part(s) thereof.

(2) Investigate service difficulties that involve quality control or inspection problems.

(3) Investigate regulatory violations.

(4) Ensure that appropriate corrective actions have been proposed and taken for all noncompliances identified at a PAH or associate facility.

(5) Determine the need for unscheduled PI or ACSEP evaluations, supplier control audits, product audits, and any investigation activity necessary to ensure continued compliance with all

applicable CFR; e.g., Suspected Unapproved Parts. Make arrangements for such evaluations, audits, or investigations.

(6) Provide guidance and assistance to the PAH and associate facility as necessary.

**97. DOMESTIC HAND-OFF PROCEDURES.** After receipt of the finalized Directorate Supplier Control Audit List referenced in paragraphs 141-142 of this order, the following hand-off procedures shall be used for suppliers located in the United States:

a. The MIDO or CMO shall forward a memorandum to the MIDO or CMU having geographic responsibility of the area in which the supplier is located. The memorandum shall indicate the type of audit that should be conducted, i.e., supplier control audit or product audit, and will include all pertinent information regarding the audit including, when appropriate:

(1) The name and address of the supplier and the responsible PAH, including the PAH's project number.

(2) The name, title, and telephone number of the person to contact at the supplier and PAH facilities who can furnish purchase order(s), QC or FIS data, technical data, and other pertinent information.

(3) A copy of the PAH's, or supplier's, QC or FIS procedures that are required to be implemented at the particular supplier's facility, unless these documents are available to the FAA at the supplier's facility.

(4) Any delegation of MRB and/or technical data change control authority.

(5) Any authority permitting direct shipment to the end user.

(6) Any other information regarding specific supplier activities that should be evaluated, such as a new process or new technology.

(7) Information pertinent to a product or part(s) thereof to be audited, such as part number, next level of assembly, or service difficulty or warranty return history.

b. When a geographic MIDO or CMO receives a request for a supplier control audit or product audit located within its geographic boundaries, it shall:

(1) Advise the requesting MIDO or CMO of receipt of the request within 30 days.

(2) Add the audit to the CM plan. Notify the responsible PAH or associate facility in accordance with paragraph 143 of this order.

(3) Submit a memorandum to each requesting MIDO or CMO upon completion of the supplier control audit or product audit. This memorandum should summarize the results of the audit, and include all applicable Form(s) 8100-6, 8100-1, and 8120-14, or printed copies of electronic equivalents. The requesting MIDO or CMO will consider its hand-off request complete upon receipt of this memorandum.

**c. CORRECTIVE ACTION VALIDATION.** Occasionally, it may be necessary to validate corrective actions at a supplier facility or satellite MMF located outside of the geographical boundary of the responsible CM office. When a hand-off to the geographic MIDO or CMU is appropriate for this purpose, the following hand-off procedures shall be used:

(1) The MIDO or CMO shall forward a memorandum to the MIDO or CMU having geographic responsibility of the area in which the supplier or satellite MMF is located. The memorandum shall identify whether the corrective action to be validated is a short-term or long-term action, and shall include all pertinent information regarding the corrective action to be validated. The memorandum shall also specify a date for responding to the corrective action validation request. The memorandum should include, when appropriate:

(a) The name and address of the supplier or satellite MMF and the responsible PAH, including the PAH's project number.

(b) The name, title, and telephone number of the person to contact at the supplier or satellite MMF and PAH facilities who can furnish purchase order(s), QC or FIS data, technical data, or other pertinent information.

(c) A copy of the PAH's, supplier's, or satellite MMF's QC or FIS procedures that are required to be implemented at the particular supplier's facility or satellite MMF, unless these documents are available to the FAA at the supplier's facility or satellite MMF.

(d) A copy of the noncompliance.

(e) A copy of the PAH's corrective action response.

(f) A copy of the supplier or satellite MMF's corrective action response to the PAH.

(2) When a geographic MIDO or CMU receives a request for a corrective action validation at a facility located within its geographic boundaries, it shall:

(a) Advise the requesting MIDO or CMO of receipt of the request within 30 days.

(b) Submit a memorandum to the requesting MIDO or CMO upon completion of the corrective action validation. This memorandum should summarize the results of the validation, and include all applicable Form(s) 8100-6 or 8100-1, or printed copies of electronic equivalents. The requesting MIDO or CMO will consider its hand-off request complete upon receipt of this memorandum.

**98. ASSIGNMENT OF CM COORDINATOR.** Many of the tasks identified in this chapter for MIO, MIDO, or CMO managers are primarily administrative. A high degree of operational efficiency may be achieved by assigning many of these tasks to a designated CM coordinator. Directorate managers should consider whether such an assignment would be beneficial for their organizations. The types of tasks that a CM coordinator could coordinate are as follows:

a. ACSEP candidate and evaluator appointment and training (refer to Order 8100.7).

**b.** Audit/evaluation scheduling and ACSEP team selection; obtaining additional resources when required (refer to Order 8100.7 and chapter 3, section 2 of this order).

**c.** Supplier control audit list (refer to chapter 3, section 2 of this order).

**d.** Continuous improvement program (refer to chapter 1 of this order).

**e.** Dissemination of general CM-related information.

**f.** Consolidation of resource targeting results.

**99.-102. RESERVED.**

## SECTION 2. ONGOING CM RESPONSIBILITIES

### PART 1. INTRODUCTION

**103. GENERAL.** Parts 2 through 6 of this section provide detailed guidance for accomplishing ongoing CM responsibilities. Figure 11 of this order provides a graphic summary of the tasks associated with ongoing CM. These tasks are accomplished on a continuing basis, and are minimum requirements only. Tasks beyond the specified frequency may be performed at the discretion of the managing office when required to ensure continued operational safety.

**FIGURE 11. CERTIFICATE MANAGEMENT RESPONSIBILITIES (ONGOING)  
Minimum Requirements**

ONGOING CM RESPONSIBILITY	GROUP I FACILITY			GROUP II FACILITY		
	CAT 1	CAT 2	CAT 3	CAT 1	CAT 2	CAT 3
Resource Targeting Assessment	During PI evaluations	During PI evaluations	During PI evaluations	During PI evaluations	During PI evaluations	During PI evaluations
PI Evaluations	1 every 3 months (See Note 1)	1 every 3 months (See Note 1)	1 every 12 months (See Note 2)	1 every 6 months (See Note 1)	1 every 6 months (See Note 1)	1 every 12 months (See Note 2)
Supplier Control Audit	4 suppliers annually	2 suppliers annually		2 suppliers annually	2 suppliers annually	
Product Audits	2 every 12 months in conjunction w/PI evaluations; also during ACSEP evaluations	1 every 12 months in conjunction w/PI evaluations; also during ACSEP evaluations		1 every 12 months in conjunction w/PI evaluations; also during ACSEP evaluations	During ACSEP evaluations only	
ACSEP Evaluations	18-24 months	24-36 months		24-36 months	32-48 months	
ONGOING CM RESPONSIBILITY	GROUP III FACILITY			GROUP IV FACILITY		
	CAT 1	CAT 2	CAT 3	CAT 3		
Resource Targeting Assessment	During PI evaluations	During PI evaluations	During PI evaluations; by telephone in outyears	During PI evaluations; by telephone in outyears		
PI Evaluations	1 every 12 months (See Notes 1 & 2)	1 every 12 months (See Notes 1 & 2)	1 every 24 months (See Notes 2 & 3)	1 every 36 months (See Notes 2 & 3)		
Supplier Control Audit						
Product Audits	During ACSEP evaluations only	During ACSEP evaluations only				
ACSEP Evaluations	32-48 months	42-60 months				

**General Note:** Functions associated with shaded blocks are optional based on justified need (e.g. evaluation results, history, investigation, or service difficulties).

**Note 1:** Evaluation of all 17 system elements, as applicable, will be completed in the interval between ACSEP evaluations.

**Note 2:** Evaluation of top four problem system elements at the applicable facility identified by current annual ACSEP report, and the MMF system element when applicable..

**Note 3:** One-half of all Group III Category 3 facilities will be evaluated annually. One-third of all Group IV facilities will be evaluated annually.

**104. CERTIFICATE MANAGEMENT PLAN.** A CM plan assists the PI in planning and tracking the performance of ongoing CM responsibilities. Each MIDO or CMU may prepare a CM plan annually for each PAH and associate facility after resource targeting has been completed, within a timeframe established by the MIO. The MIDO or CMU may subsequently amend the CM plan as necessary to include additional or reduced requirements and schedule changes. As a minimum, the CM plan should include the following:

- a. Name of PAH or associate facility.
- b. Current resource targeting group and category.
- c. Schedules for PI evaluations, ACSEP evaluations, product audits, and supplier control audits to be conducted within the geographic boundaries of the MIDO or CMU. For supplier control audits, and product audits at suppliers, include the names of the suppliers.
- d. List of hand-offs or CAA requests sent, including, as a minimum, the name of the geographic MIDO or CMO that has accepted the hand-off or the CAA that has accepted the request, the type of audit requested, the name of the facility receiving the audit, and the name of the responsible PAH or associate facility.
- e. List of hand-offs or CAA requests received, including, as a minimum, the name of the geographic MIDO/CMO or CAA that has requested the hand-off, the type of audit or surveillance requested, and the name of the applicable facility.

**105. COORDINATION OF AUDIT ACTIVITIES WITH OTHER CAA'S.** When it is necessary for the FAA to conduct supplier control audits or product audits at a supplier in another country, the PI will perform the following activities:

a. Notify the responsible CAA and invite CAA participation as an observer. Prepare a formal letter signed by the directorate manager, or delegated signatory. The letter should be addressed to the Production contact for the CAA. A list of CAA's and respective contacts is available from the International Airworthiness Programs Staff, AIR-4. Send an electronic facsimile (FAX) of the letter 75 days prior to the audit, followed by the formal letter. Notify the CAA of any changes in the audit's schedule. The CAA's participation in the audit is not mandatory, and the choice to provide an observer is at its discretion. The letter should include the following information, as a minimum:

- (1) Identity of the facility to be audited.
- (2) Type of audit to be conducted (supplier control audit, product audit, or both). Provide a general outline of what will be included in the audit.
- (3) Date(s) of the audit.
- (4) Number of FAA auditors participating in the audit.
- (5) Name, address, and phone number of responsible PI.

b. Provide the managing office with details of any finding or observation (noncompliance) encountered during the audit. For example, if there is a trend showing recurring test failures or nonconforming articles, it may be evidence of a system breakdown or a compliance problem at that facility. The managing office will determine if there are any system issues or major problems that should be forwarded to the applicable CAA for its consideration.

**106. RECORDING NONCOMPLIANCES.** Record all noncompliances on Form 8100-6, or electronic equivalent, in accordance with the guidelines listed in appendix 7 of this order. The FAA will notify a PAH of noncompliances found at its supplier. For all other circumstances, the FAA will not reveal noncompliances to a manufacturer other than the particular manufacturer involved unless a formal request has been processed in accordance with the Freedom of Information Act. Reference Order 1200.23.

**107. RESERVED.**

## **PART 2. RESOURCE TARGETING**

**108. RESOURCE TARGETING MODEL.** In the interest of safety and effective resource allocation, a resource targeting model has been developed to identify critical impact indicators that serve to categorize facilities according to their potential for producing nonconforming products or parts thereof. The FAA will assess annually each facility subject to resource targeting based on the critical impact indicators. As a result, the resource targeting model places each facility into one of four resource targeting groups according to the potential for producing nonconforming products or parts thereof. Each directorate will use the resource targeting model and its application procedures to provide a rational and justifiable basis for effective deployment of FAA resources for ongoing CM responsibilities.

**109. SCOPE.** Holders of an APIS, PC, PMA, and/or TSO authorization and their associate facilities are subject to resource targeting assessment. Suppliers, delegated facilities, satellite MMF's, and holders of a letter of TSO design approval are not subject to resource targeting.

**110. RESOURCE TARGETING GROUPS.** Resource targeting assessment of each applicable facility is based on 21 indicators that demonstrate a facility's potential for producing nonconforming products or parts thereof. See appendix 3 of this order. The assessment is also based on the category of the products or parts thereof produced. See paragraph 111 below. Resource targeting assessment results in placing a facility into one of the following resource targeting groups:

- a. **Group I:** Facilities with greatest potential to produce nonconforming products or parts thereof.
- b. **Group II:** Facilities with moderate potential to produce nonconforming products or parts thereof.
- c. **Group III:** Facilities with low potential to produce nonconforming products or parts thereof.
- d. **Group IV:** Facilities with little or no potential to produce nonconforming products or parts thereof.

**111. RESOURCE TARGETING CATEGORIES.** Resource targeting categories are identified as category 1, category 2, and category 3, with category 1 being the highest and category 3 being the lowest. The overall category of a facility is based on the highest category product or part(s) thereof produced by the facility. Each of the categories is defined as follows:

**a. Category 1:** Failure could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations.

**b. Category 2:** Failure would not prevent continued safe flight and landing; resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.

**c. Category 3:** Failure would have no effect on continued safe flight and landing of the aircraft.

**112. RESOURCE TARGETING ASSESSMENT OF FACILITIES.** The FAA shall assess facilities annually. Document facility assessment on FAA Form 8100-9, Resource Targeting Facility Assessment Sheet; or electronic equivalent; refer to appendix 2.

**a.** Assessment of facilities and completion of Form 8100-9 shall be completed annually no later than April 30. All MIO managers should allow enough time prior to this date for uploading the automated files described in paragraphs 113 and 114 below, and for printing and distributing the reports described in appendix 5 of this order and paragraph 114 below.

**b.** The validity of the information entered on Form 8100-9 is dependent upon the PI's knowledge of the status of each facility being assessed. To this end, the PI should collect the information required to complete Form 8100-9 at any time the PI is in the facility, or by telephone for Group III Category 3 and Group IV facilities in those years when PI evaluations are not scheduled. For a new facility, information obtained during the DO audit should be utilized.

**c.** The PI will use the Category Parts List (CPL) described in appendix 4 of this order to determine the category of products or parts thereof produced at each facility and to determine the overall category of each facility.

**d.** When appropriate, the PI should contact each facility in order to obtain current or clarifying information relevant to the resource targeting company/facility indicators being assessed.

**e.** The PI will complete Form 8100-9 in accordance with appendix 2, paragraph 2.

**f.** Upon completion of the requirements of appendix 2, paragraph 2, for all assigned facilities, the PI will discuss each completed form with the MIDO or CMO manager. For this purpose, the PI may print a copy of each Form 8100-9 or use an electronic copy. To the greatest extent possible, the PI and MIDO or CMO manager should agree on the final assessment ratings for each indicator and unit criticality. At the conclusion of the discussion, the PI will incorporate any changes in the automated file. The PI will then print each Form 8100-9, and sign and date each form. The PI will provide the signed forms to the MIDO or CMO manager, who will also sign and date the forms. The MIDO or CMO manager will return the signed Form(s) 8100-9 to the PI. The PI should file the signed forms in a single folder until the forms are finalized in accordance with paragraph 114b below.

**113. COLLECTION OF FACILITY ASSESSMENT DATA.** Each MIDO or CMO manager should designate an individual to collect and collate the completed automated assessment files and transmit them to the MIO. For the purpose of this order, the MIDO or CMO designated individuals will hereinafter be referred to as a MIDO or CMO resource targeting administrator (RTA).

a. Upon receipt of all applicable signed Form(s) 8100-9, the PI will:

(1) If the automated files are located on an individual PI's workstation, provide a copy of the respective automated files to the MIDO or CMO RTA; or

(2) If the automated files are located on the MIDO or CMO RTA workstation, notify the MIDO or CMU RTA that Form(s) 8100-9 have been signed.

b. When it has received and compiled all automated files, the MIDO or CMO RTA will combine the automated files into a single automated file. If a single automated file was initially established, the MIDO or CMO RTA will ensure that all the supporting Form(s) 8100-9 have been signed. The MIDO or CMO RTA will then transmit the single automated file electronically to the directorate MIO and to AIR-200.

**NOTE: The automated files transmitted by the MIDO or CMO RTA contain only the data entered as required by appendix 2, paragraph 2. The software provided to the MIO converts this data into the appropriate resource targeting groups identified in paragraph 110 above.**

**114. IDENTIFICATION OF RESOURCE TARGETING GROUPS.** Each MIO manager should designate an individual to collect and collate the completed automated assessment files transmitted from the MIDO or CMO RTA. For the purpose of this order, the MIO designated individuals will hereinafter be referred to as a MIO RTA.

a. The MIO RTA will upload the automated files received from the MIDO or CMO RTA to the resource targeting database. When it has received and uploaded all automated files, the MIO RTA will simultaneously print and distribute a Directorate Report and an Office Report; refer to appendix 5.

(1) The Directorate Report will list all facilities assessed within the directorate and the respective resource targeting group assigned by the resource targeting model. The MIO manager will sign and date the Directorate Report, and submit it to the MIO RTA for distribution to the ACO and MIDO/CMO managers. When the MIO distributes an electronic version of the Directorate Report to the ACO and MIDO/CMO managers, the electronic mail message will include a statement that the MIO manager has approved the report.

(2) The Office Report will list the facilities assessed within each MIDO or CMO and their group assignments. It will be distributed to the respective MIDO or CMO manager.

b. Upon receipt of the signed Directorate Report, the PI will finalize Form 8100-9. Obtain the signed printed form and write in or type the assigned resource targeting group, and file Form 8100-9 in the PAH's project folder.

c. After entering the resource targeting group on Form 8100-9, update MIMIS by entering the resource targeting group and category for each facility assessed.

**115. MODIFICATION OF RESOURCE TARGETING GROUPS.** Circumstances may arise following the annual identification of resource targeting groups that may challenge the assigned resource targeting group for a specific facility. When any of the following conditions occur at a facility after a resource targeting group has been assigned, the PI should complete a new Form 8100-9 and process the automated assessment file as indicated in paragraph 112 above. When submitting a modified automated assessment file to the MIO, ensure that the file name is different from the file name of the automated assessment file that was previously submitted. Refer to appendix 3 for assistance in determining the significance of the following conditions:

- a. Unit criticality changes from category 1 or 2 to category 3.
- b. Unit criticality changes from category 3 to category 1 or 2.
- c. Significant change in key management.
- d. Significant turnover of critical staff.
- e. Significant increase or reduction in workforce.
- f. Deliberate non-responsiveness to corrective action requests.
- g. Significant service difficulties attributed to manufacturing or quality problems.
- h. Addition of a complex manufacturing process.
- i. Addition of a complex product or part(s) thereof.
- j. Significant quality or inspection system changes.
- k. Significant increase in the use of foreign suppliers.
- l. Movement or shift of production location or volume.
- m. Expiration of a labor contract; potential labor unrest.

**116. DISPOSITION OF AUTOMATED FILES.** Database tables from the MIO roll-up (File “C:\Target2\Risktbl2.mdb”) will be sent to AIR-200 to perform resource targeting model validation after the schedule of ongoing CM responsibilities for the next fiscal year is finalized, generally following the ACSEP Joint Scheduling Committee meeting, i.e., when the nationally-led ACSEP evaluations are identified. All automated resource targeting files created by the PI, MIDO or CMO RTA, and MIO RTA to identify resource targeting groupings may be deleted after the files are received (and viable receipt confirmed) by AIR-200. Do not delete any files until AIR-200 has confirmed that it has successfully opened the files.

**117. RESOURCE TARGETING MODEL VALIDATION PLAN.** The objective of resource targeting is to effectively deploy FAA resources to those facilities that have the greatest potential to produce nonconforming products or parts thereof. The FAA has planned several validation tasks to ensure that this objective remains viable. Appendix 6 describes the details of the validation plan.

**118. MODIFICATION OF THE RESOURCE TARGETING MODEL.** The resource targeting model is comprised of several quantitative factors that result in categorizing facilities according to their potential to produce nonconforming products or parts thereof. The resource targeting model validation plan periodically reviews many of these factors. Any proposed modifications to the resource targeting model as a result of validation, or other source, will be processed in accordance with the continuous improvement program referenced in paragraph 13 of this order, and any relevant supplemental policy. All substantive proposed changes to the resource targeting model that result from the continuous improvement program, i.e., changes to indicator assessment criteria, indicator point weights, factor level rating scales, factor level combinations, and resource targeting group assignment decision rules, require formal Aircraft Certification Management Team approval. AIR-200 will coordinate the implementation of any changes to the model, including development and dissemination of revised program guidance or other documentation, updated resource targeting application software, and revised resource targeting program training materials.

**119.-122. RESERVED.**

### **PART 3. DETERMINING SUPPLIER CONTROL BY A PAH OR ASSOCIATE FACILITY**

**123. GENERAL.** A PAH or associate facility may utilize suppliers when it has established an FAA-approved QC or inspection system that provides assurance that all parts or services furnished by its suppliers are in compliance with its particular production approval and applicable 14 CFR. The PAH or associate facility should:

**a.** Ensure that each completed product or part(s) thereof conforms to the approved design data and is in a condition for safe operation. This responsibility is applicable without regard to:

- (1) Where the supplier may be located.
- (2) Whether the parts received by the PAH or associate facility are also FAA-approved (PMA or TSO).
- (3) Whether materials are accompanied by airworthiness approval tags, or their equivalent, issued by the CAA of a bilateral country.
- (4) Whether materials or equipment are supplied by the end product purchaser (customer-furnished equipment, buyer-furnished equipment, or government-furnished equipment).
- (5) Whether the FAA performs an audit at the supplier.
- (6) Whether the parts received by the PAH or associate facility are standard parts.
- (7) Whether the supplier has been delegated major inspection authority.

**b.** Place special emphasis on controlling those suppliers that the PAH has authorized to ship directly to a user/operator. Suppliers may ship replacement and modification parts directly to the end user without the parts first being processed through the PAH's or associate facility's receiving inspection facilities only if the PAH or associate facility:

(1) Authorizes, in writing, direct ship authority by the supplier.

(2) Includes in its FAA-approved quality control or inspection system controls to compensate for the absence of inspection normally conducted at the PAH's or associate facility's location, e.g., receiving inspection, and test.

(3) Ensures that each part so shipped is accompanied by a shipping ticket, invoice, or other document containing a declaration that the individual part was produced under the terms of the production approval. The shipping document for parts manufactured under PMA, PC, APIS, and TC Only should also identify the product on which the part is eligible for installation. The shipping document for subcomponents manufactured for TSO articles should contain the TSO number. When FAA Form 8130-3, Airworthiness Approval Tag, is used for this purpose, the direct ship authorization will be annotated in accordance with FAA Order 8130.21, Procedures for Completion and Use of FAA Form 8130-3, Authorized Release Certificate, Airworthiness Approval Tag.

(4) Provides the appropriate part marking information to the supplier.

(5) Advises its cognizant MIDO or CMU of each direct ship authorization.

**c.** Take measures to prevent suppliers from manufacturing parts without proper authority. For example, the PAH could limit projected overruns and request, in its contract with the supplier, that any unnecessary overrun parts be scrapped. The PAH may also include a clause in its contract that no parts are to be sold under any circumstances other than those described in the contract.

**d.** Make available to the FAA a current list of its suppliers.

**e.** Notify its suppliers that its facilities are subject to FAA CM.

**124. CERTIFICATE MANAGEMENT ACTIVITY.** The FAA does not approve suppliers. However, the PI should review a PAH's or associate facility's list of suppliers to determine if the location of a supplier outside the United States will place any undue burden on the FAA in administering part 21. A determination of undue burden is cause for rejecting the use of a supplier by the PAH or associate facility. Certificate management activity will be focused on the PAH's or associate facility's control of its suppliers, since the PAH or associate facility is totally responsible for all of its supplier-furnished parts and services. The FAA will determine if a PAH or associate facility is complying with its supplier control system by performing the following activities:

**a. PI Evaluation.** Refer to part 4 of this section. Specifically, the PI will use the ACSEP supplier control system element criteria from Order 8100.7 to determine if a PAH or associate facility is complying with its supplier control system.

**b. Supplier Control Audit.** Refer to part 6 of this section. Specifically, the PI will determine that the supplier complies with purchase order and /or quality requirements. In some instances, this activity may be handed off to another MIDO or CMU, or may require CAA assistance.

**125. DETERMINATION OF SUPPLIER CONTROL.** The PI may determine whether a PAH or associate facility is controlling its suppliers by reviewing the results of the PI evaluation at the PAH or associate facility, when applicable, and the results of the supplier control audits at the selected PAH/associate facility suppliers, including the results of all applicable CAA audits. This review should take place immediately following the last scheduled supplier control audit, or the PI evaluation, whichever occurs last. The PI should look for evidence that may indicate a system breakdown in supplier control by the PAH or associate facility. Request corrective action for a system breakdown in accordance with section 3, part 5, of this chapter.

**126.-128. RESERVED.**

#### **PART 4. PRINCIPAL INSPECTOR EVALUATION**

**129. GENERAL.** A PI evaluation is an evaluation conducted by a PI at a PAH or associate facility, normally by the PI assigned CM responsibility. If specific expertise is required during a PI evaluation, the PI should advise the MIDO or CMO manager. A PI evaluation shall be scheduled using the resource targeting assessment group and category assignment determined under part 2 of this section. Refer also to figure 11 of this order. ACSEP system element criteria from Order 8100.7 will be used to conduct PI evaluations. The PI evaluation will be scheduled and conducted as follows:

**NOTE: The scheduling requirements listed in paragraphs a through d below are considered to be the minimum requirements. A MIDO or CMU may schedule additional PI evaluations at specific facilities when required to ensure continued operational safety.**

**a. Group I Facility.**

**(1) Category 1 or 2 Facility.**

**(a)** A PI evaluation will be conducted at each category 1 or 2 facility at least once every three months.

**(b)** Evaluation of all 17 system elements, as applicable at the specific facility, will be completed at least once in the interval between ACSEP evaluations (i.e., 18-24 months and 24-36 months respectively). A few of the system elements should be evaluated during each PI evaluation. Initial emphasis should be placed on evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report.

**(2) Category 3 Facility.**

**(a)** A PI evaluation will be conducted at each category 3 facility at least once every 12 months.

(b) Evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report, and the MMF system element when applicable, will be completed at least once in the 12-month period.

**b. Group II Facility.**

**(1) Category 1 or 2 Facility.**

(a) A PI evaluation will be conducted at each category 1 or 2 facility at least once every six months.

(b) Evaluation of all 17 system elements, as applicable at the specific facility, will be completed at least once in the interval between ACSEP evaluations (i.e., 24-36 months and 32-48 months respectively). A few of the system elements should be evaluated during each PI evaluation. Initial emphasis should be placed on evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report.

**(2) Category 3 Facility.**

(a) A PI evaluation will be conducted at each category 3 facility at least once every 12 months.

(b) Evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report, and the MMF system element when applicable, will be completed at least once in the 12-month period.

**c. Group III Facility.**

**(1) Category 1 or 2 Facility.**

(a) A PI evaluation will be conducted at each category 1 or 2 facility at least once every 12 months.

(b) Evaluation of all 17 system elements, as applicable at the specific facility, will be completed at least once in the interval between ACSEP evaluations (i.e., 32-48 months and 42-60 months respectively). A few of the system elements should be evaluated during each PI evaluation. Initial emphasis should be placed on evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report.

**(2) Category 3 Facility.**

(a) A PI evaluation will be scheduled so as to evaluate one-half of all Group III Category 3 facilities one year, and the other half the following year. This will result in a facility being evaluated at least once every 24 months.

(b) Evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report, and the MMF system element when applicable, will be completed at least once in the 24-month period.

**d. Group IV Category 3 Facility.**

**NOTE: There are no Category 1 and 2 facilities possible in Group IV using the resource targeting software.**

(1) A PI evaluation will be scheduled so as to evaluate one-third of all Group IV Category 3 facilities one year, one-third the following year, and the remaining one-third the next year. This will result in a facility being evaluated at least once every 36 months.

(2) Evaluation of the top four problem system elements applicable at the facility, as identified by the current annual ACSEP report, and the MMF system element when applicable, will be completed at least once in the 36-month period.

**130. RECORDING A PI EVALUATION.** Record a PI evaluation on Form 8120-14, or electronic equivalent. Complete one form for each PI evaluation conducted. Prepare this form in accordance with appendix 8 of this order.

**131.-134. RESERVED.**

**PART 5. AIRCRAFT CERTIFICATION SYSTEMS  
EVALUATION PROGRAM EVALUATION**

**135. GENERAL.** An ACSEP evaluation is an integral part of the ongoing CM responsibilities. Specific guidance concerning an ACSEP evaluation is contained in Order 8100.7. It shall be scheduled using the resource targeting assessment group and category assignment determined under part 2 of this section. Refer also to figure 11 of this order. The ACSEP evaluation will be scheduled as follows:

**NOTE: The scheduling requirements listed in paragraphs a through d below are considered to be the minimum requirements. A MIDO or CMU may schedule additional ACSEP evaluations at specific facilities when required to ensure continued operational safety.**

**a. Group I Facility.**

(1) **Category 1 Facility.** An ACSEP evaluation will be conducted at each category 1 facility at least once every 18 to 24 months.

(2) **Category 2 Facility.** An ACSEP evaluation will be conducted at each category 2 facility at least once every 24 to 36 months.

(3) **Category 3 Facility.** An ACSEP evaluation is not required.

**b. Group II Facility.**

(1) **Category 1 Facility.** An ACSEP evaluation will be conducted at each category 1 facility at least once every 24 to 36 months.

(2) **Category 2 Facility.** An ACSEP evaluation will be conducted at each category 2 facility at least once every 32 to 48 months.

(3) **Category 3 Facility.** An ACSEP evaluation is not required.

**c. Group III Facility.**

(1) **Category 1 Facility.** An ACSEP evaluation will be conducted at each category 1 facility at least once every 32 to 48 months.

(2) **Category 2 Facility.** An ACSEP evaluation will be conducted at each category 2 facility at least once every 42 to 60 months.

(3) **Category 3 Facility.** An ACSEP evaluation is not required.

**d. Group IV Facility.** An ACSEP evaluation is not required.

**136.-138. RESERVED.**

## **PART 6. SUPPLIER CONTROL AUDIT**

**139. GENERAL.** A supplier control audit is an audit conducted as part of the PI evaluation of the system established by a PAH or associate facility to control the parts, materials, supplies, and services provided by outside sources. This audit is conducted by the MIDO or CMU assigned CM responsibility for the PAH or associate facility. If specific expertise is required during this audit, the PI should advise the MIDO or CMO manager. If a supplier control audit is required in another geographic MIDO or CMU, the PI will comply with the hand-off procedures in paragraph 97 above. A supplier control audit is applicable to suppliers of a PAH or associate facility as determined by the selection process identified in paragraph 140a below. The supplier control audit will determine that the supplier complies with purchase order and /or quality requirements, including any statistical sampling that may be utilized. The PI should prepare an audit checklist for each supplier to be audited based on the applicable purchase order and/or quality requirements from the PAH or associate facility. Schedule a supplier control audit as follows:

**NOTE: The scheduling requirements listed in paragraphs a through c below are considered to be the minimum requirements. Refer also to figure 11 of this order. A MIDO or CMU may schedule additional supplier control audits at specific facilities when required to ensure continued operational safety.**

**a. Group I Facility.**

(1) **Category 1 Facility.** A supplier control audit will be conducted at four suppliers annually.

(2) **Category 2 Facility.** A supplier control audit will be conducted at two suppliers annually.

(3) **Category 3 Facility.** A supplier control audit is not required.

**b. Group II Facility.**

(1) **Category 1 Facility.** A supplier control audit will be conducted at two suppliers annually.

(2) **Category 2 Facility.** A supplier control audit will be conducted at two suppliers annually.

(3) **Category 3 Facility.** A supplier control audit is not required.

**c. Group III or IV Facility.** A supplier control audit is not required.

**140. SUPPLIER SELECTION.** Selection of suppliers subject to supplier control audits will be performed as follows:

**a.** After completing resource targeting, each PI will identify the number of supplier control audits to be performed by using the guidance described in paragraphs 139a through 139c above.

**b.** Next, the PI must obtain access to the PAH's supplier listing.

**c.** The PI will select candidates for supplier control audits using a random sampling method in order to minimize biasing the results. For supplier selection purposes, a random number generator method will be used. Each MIO will determine the method of generating random numbers, using the Internet as a possible source. The PI will use these randomly generated numbers to determine which suppliers receive an audit. Using the random number generator method, the PI will select the appropriate minimum number of supplier control audits required.

**d.** The PI will match the randomly generated numbers to the PAH's or associate facility's supplier control listing. For example, Company ABC was rated as a Group I, Category 1 facility and has 50 suppliers on its supplier control listing. The minimum number of supplier control audits for a Group I, Category 1 facility is four. Using the random number generator method, the PI selects the first four numbers from the generated list, which for the purpose of this example would be 5, 8, 14, and 24. The PI will then count down the supplier listing and choose the 5<sup>th</sup>, 8<sup>th</sup>, 14<sup>th</sup>, and 24<sup>th</sup> supplier on the list.

**e.** The PI will screen each of the suppliers selected to determine that the supplier is actively providing parts, processes, or services. If it is, the PI should then consider the following factors: part complexity or criticality, significant service difficulty activity at a supplier, inspectability upon receipt, delegation of major inspections, direct ship authority, delegation of MRB, or supplier performance. If, based on these factors, the PI decides not to audit a selected supplier, the PI should select the next number on the generated list and screen that supplier against the listed factors. Continue this process until the required number of suppliers is selected.

**NOTE: In cases where the PAH or associate facility supplier base is less than or equal to the minimum number of supplier control audits required, the PI will schedule and conduct a supplier control audit at each of the PAH's or associate facility's suppliers. When the results of the supplier control audits indicate a continuing trend of effective supplier control by the PAH or associate facility, the PI may elect to reduce the number of supplier control audits to be conducted.**

f. There may be reasons such as part complexity or criticality, size of the PAH's or associate facility's supplier base, significant service difficulty activity at a supplier, delegation of major inspections, or supplier performance where the PI may want to do more than the minimum number of supplier control audits. The PI should remember, however, that the purpose of the supplier control audit is to determine that a PAH or associate facility is satisfactorily controlling its suppliers, not to evaluate the performance of the supplier. Specific supplier issues should be evaluated using the product audit described in section 2, part 7 of this chapter.

**141. DIRECTORATE SUPPLIER CONTROL AUDIT LIST.** Each MIDO or CMO will prepare a supplier control audit list annually to document the results of the selection of suppliers described in paragraph 140 above.

a. The supplier control audit list shall include the name and address of the selected supplier, the name and address of the responsible PAH or associate facility, the scheduled date of supplier control audits to be conducted by the MIDO or CMO, and identification of any supplier control audits that may be handed off to other directorates or may require the assistance of a CAA in a bilateral country.

b. Each MIDO or CMO will forward a completed supplier control audit list to the MIO manager no later than May 15 every year. This list will be used to plan resource allocation in the next fiscal year. The MIO manager will ensure that the lists submitted by each MIDO or CMO are reviewed for completeness and for identification of duplicate suppliers. When the same supplier is selected by different MIDO's or CMO, the MIO manager should ensure that only one audit is scheduled at that supplier; however, compliance to the requirements of all applicable PAH's or associate facilities should be audited at that supplier. The MIO manager should also determine which MIDO or CMO will conduct the audit, and whether representation from other MIDO's or CMO's is required. When all discrepancies with the lists are resolved, the MIO manager will ensure that a consolidated directorate supplier control audit list is prepared.

c. The completed directorate list will be distributed to all other MIO managers no later than May 30 every year. All MIO managers should ensure that supplier control audit lists received from other directorates are reviewed to identify duplicate suppliers, potential hand-offs that affect their offices, and supplier control audits to be conducted by the FAA at multiple international suppliers in the same country.

**142. COORDINATION OF SUPPLIER CONTROL AUDITS BETWEEN DIRECTORATES.** Discussion of duplicate suppliers and hand-offs between directorates should occur during a joint scheduling telcon by June 15 every year.

a. **Duplicate Suppliers.** Telcon participants should ensure that only one audit is scheduled at a supplier. The participants should determine whether representation from other MIO's is required.

b. **Hand-Offs.** MIO managers should ensure that supplier control audits that are handed off to their directorates are added to their directorate supplier control audit lists and scheduled. Updated directorate supplier control audit lists should be provided to the other MIO managers prior to the ACSEP Joint Scheduling Committee meeting. Hand-offs that are contentious should not be scheduled at this time. Participants should discuss contentious hand-offs and agree on an appropriate solution. Examples of contentious hand-offs may include hand-offs for suppliers selected beyond the minimum requirements, hand-offs that have significant resource implications, etc.

**FIGURE 12. SAMPLE SUPPLIER CONTROL AUDIT NOTIFICATION LETTER.**

U.S. Department  
of Transportation

**Federal Aviation  
Administration**

July 13, 2001

Molly Brown  
c/o Tight Weave Manufacturing  
1600 Lind Ave SW  
Fort Worth, TX 76137

**Transport Airplane Directorate  
Aircraft Certification Service**

Seattle MIDO  
2500 East Valley Road, Ste C2  
Renton, Washington 98055

Dear Ms. Brown:

The Federal Aviation Administration (FAA), in accordance with its responsibilities under Title 49 United States Code, Subtitle VII, part A, and applicable regulations, has selected Structural Components located in Seattle, Washington, for the conduct of a supplier control audit. The audit is scheduled to be conducted on November 12, 2001, by an FAA representative from the Seattle Manufacturing Inspection District Office (MIDO). This audit will determine that your supplier complies with purchase order and /or quality requirements, including any statistical sampling that may be utilized.

The FAA requests that you inform a representative at Structural Components of this audit. Also, please inform the Seattle MIDO at (425) 227-2170 of any security requirements so that we may obtain the appropriate clearance. In addition, please provide the name, title, address, and telephone number of an individual at Structural Components who will serve as the company point of contact for this audit.

If you have any questions concerning the scheduling or conducting of this audit, please contact the undersigned at the above telephone number.

Sincerely,

*Julia Gotta*

Julia Gotta  
Seattle Manufacturing Inspection  
District Office

cc: Fort Worth MIDO

**c. Supplier Control Audits to be Conducted by the FAA at Multiple International Suppliers in the Same Country.** Telcon participants should identify one FAA office as a lead office to coordinate all audit activities, including notifying the responsible CAA and inviting its participation. The participants should also determine whether representation from other MIO's is required.

**d.** MIO managers will provide the finalized Directorate Supplier Control Audit List to the MIDO's and CMO.

**143. NOTIFYING A PAH OR ASSOCIATE FACILITY.** Prior to conducting a supplier control audit, the MIDO/CMO that will be conducting the audit will notify the responsible PAH or associate facility. The PI should prepare a notification letter and send it to the PAH no later than 50 days prior to the audit. If changes occur after the notification letter has been sent, notify the PAH by letter or other appropriate means. If a supplier control audit has been handed off as described in paragraph 97b of this order, the office receiving the request will send the notification letter to the PAH or associate facility and provide a copy to the requesting office. Figure 12 contains a sample notification letter.

**144. RECORDING A SUPPLIER CONTROL AUDIT.** A supplier control audit shall be recorded on Form 8120-14, or electronic equivalent, by the person conducting the audit. One form shall be completed for each supplier control audit conducted. Each hand-off is considered a separate supplier control audit. Prepare this form in accordance with appendix 8 of this order.

**145.-147. RESERVED.**

## **PART 7. PRODUCT AUDIT**

**148. GENERAL.** A product audit evaluates the effectiveness of the PAH's or associate facility's quality control or inspection system and the airworthiness of products utilizing critical and certain non-critical characteristics and/or processing attributes generated during the manufacturing process. The product audit may be initiated at any point in the manufacturing process after inspections have been completed. The product audit is conducted at a production approval holder or associate facility, but may also be conducted at a supplier facility where a product or part(s) thereof is manufactured. If specific expertise is required during this audit, the PI should advise the MIDO or CMO manager. If a product audit is required in another geographic MIDO or CMU, the PI will comply with the hand-off procedures in paragraph 97. Product audits will be conducted in conjunction with every scheduled ACSEP evaluation. In addition, product audits are conducted in conjunction with scheduled PI evaluations as follows:

**NOTE: The scheduling requirements listed in paragraphs a through c below are considered to be the minimum requirements. See also figure 11 of this order. A MIDO or CMU may schedule additional product audits at specific facilities when required to ensure continued operational safety.**

**a. Group I Facility.**

**(1) Category 1 Facility.** Two product audits will be conducted in conjunction with two PI evaluations that are conducted annually. Additionally, a product audit will be conducted in conjunction with each scheduled ACSEP evaluation.

(2) **Category 2 Facility.** A product audit will be conducted in conjunction with one PI evaluation annually. Additionally, a product audit will be conducted in conjunction with each scheduled ACSEP evaluation.

(3) **Category 3 Facility.** A product audit is not required.

**b. Group II Facility.**

(1) **Category 1 Facility.** A product audit will be conducted in conjunction with one PI evaluation annually. Additionally, a product audit will be conducted in conjunction with each scheduled ACSEP evaluation.

(2) **Category 2 or 3 Facility.** A product audit is not required during a PI evaluation. However, a product audit will be conducted in conjunction with each scheduled ACSEP evaluation at a Category 2 facility only.

**c. Group III or IV Facility.** A product audit is not required during a PI evaluation. However, a product audit will be conducted in conjunction with each scheduled ACSEP evaluation at a Group III Category 1 and 2 facility only.

**149. SELECTION OF PRODUCT AUDIT CHARACTERISTICS.** The product audit will be conducted utilizing critical characteristics and/or critical processing attributes generated during the manufacturing process, as well as certain non-critical characteristics and/or non-critical processing attributes. These characteristics and attributes are defined as follows:

**a.** Critical characteristics are those where failure to maintain conformity could cause loss of function and create an unsafe condition. Critical process attributes are those where lack of conformity directly affects the product or part(s) thereof and could cause failure or create an unsafe condition. The selection of the critical characteristics and/or critical process attributes shall be governed by utilizing the following:

(1) Known service problem areas, obtained from the Aviation Data Systems Branch, AFS-620, prior to the start of the product audit. Service Difficulty Reports submitted after January 1, 1995, may be accessed at the FAA web site.

(2) Characteristics/attributes that are operator controlled.

(3) Characteristics/attributes classified as critical as defined by the PAH's or associate facility's Engineering Drawings, Process Specifications, Test Specifications, and Quality Control Procedures.

**b.** In addition to critical characteristics and/or critical processing attributes, the PI may select certain non-critical characteristics and/or non-critical processing attributes, such as radiuses, surface finishes, machine to cast features, cad plating, NDI, etc.

**150. PRODUCT AUDIT AREAS.** The product audit may be divided into one or more of the following areas:

- a. Final Product.
- b. Subassembly.
- c. Detail Parts.
- d. Raw Material.

**151. PRODUCT AUDIT CRITERIA.** The audit criteria used in the performance of a product audit to establish conformity to TC Data are listed below. This audit criteria is a minimum and not all-inclusive. Figure 13 indicates which criteria are applicable to each product audit area, as a minimum.

**a. Operational/functional.** Verify that sub-assembly or final product conforms to the functional/operational test criteria; e.g., revalidating test results, test setup, rig approval, certified equipment, use of approved procedures, certified test parameters, use of required rig, calibration.

**b. Dimensional.** Compare actual recorded measurement(s) of the selected characteristic with the approved design data. Verify characteristics are inspected using the correct calibrated tooling, gauging, fixtures, etc., surface finish dimensions and radius meet drawing tolerances, inspections are performed in proper sequence (following work instructions); e.g., review or revalidate inspection records.

**NOTE: This is not a physical reinspection by the PI. Rather, it is the FAA witnessing of a physical reinspection by the PAH, associate facility, or applicable supplier.**

**c. Visual.** Inspect part for obvious external defects; e.g., corrosion, burrs, handling damage, scratches.

**d. Identification.** Compare actual identification plates, tags, markings etc. with approved design data or purchase order requirements and verify that identification is maintained throughout the product line; e.g., part numbers, serial numbers, lot numbers for raw material, inspection stamps. For software revision verification, verify software part number can be displayed on screen or software load verified by documentation review.

**e. Documentation.** Verify the latest revision level or changes, proper work instructions, completed operations, proper authorizations; proper use of statistical sampling; e.g., certificate of conformance, work travelers, blueprints, specifications, first article inspection records.

**f. Special Processes.** Verify special processes are in accordance with approved process specifications. Verify operator qualification/certification; e.g., test coupons, training requirements for operators, test set-ups, documentation. Verify oven surveys/calibration. For a chemical process such as plating, verify that control has been established over tank cleanliness and chemical concentration.

**g. Material.** Verify that the PAH has verified that incoming raw material meets its specification requirements.

**152. RECORDING PRODUCT AUDIT RESULTS.** All product audit activity will be recorded on Form 8100-1. When unsatisfactory conditions are identified, prepare Form(s) 8100-6, or electronic equivalent, and attach applicable objective evidence.

**153. RECORDING A PRODUCT AUDIT.** A product audit shall be recorded on Form 8120-14, or electronic equivalent, by the person conducting the audit. However, Form 8120-14 is not required for an ACSEP evaluation. When a product audit is conducted in conjunction with a PI evaluation or a supplier control audit, it may be recorded on the same form prepared for those activities. When a product audit is conducted as a stand-alone activity, one form shall be completed for each product audit completed. Prepare this form in accordance with appendix 8 of this order. Attach Form 8100-1 and any applicable Form(s) 8100-6, or printed copy of electronic equivalent, and objective evidence. Any corrective action required should be accomplished in accordance with chapter 3, section 3, part 5 of this order.

**FIGURE 13. APPLICABILITY OF PRODUCT AUDIT CRITERIA TO PRODUCT AUDIT AREAS (MINIMUM).**

PRODUCT AUDIT CRITERIA	PRODUCT AUDIT AREAS			
	FINAL PRODUCT	SUBASSEMBLY	DETAIL PARTS	RAW MATERIALS
Operational/functional	X	X		
Dimensional	X	X	X	X
Visual	X	X	X	X
Identification	X	X	X	X
Documentation	X	X	X	X
Special processes		X	X	X
Material		X	X	

**154.-156. RESERVED.**

### SECTION 3. RANDOM CM RESPONSIBILITIES

#### PART 1. INTRODUCTION

**157. GENERAL.** Parts 2 through 7 of this section provide guidance for accomplishing random CM responsibilities. The tasks discussed below are accomplished on an as-required basis.

**158.-159. RESERVED.**

#### PART 2. EVALUATION OF CHANGES TO A PAH'S OR ASSOCIATE FACILITY'S QC OR INSPECTION SYSTEM

**160. GENERAL.** The cognizant MIDO/MISO/CMU must thoroughly review applicable changes to the quality control or inspection system required for the applicable production approval that may affect the inspection, conformity, or airworthiness of the product or part(s) thereof. Refer to appendix 1, paragraph 2, of this order for additional guidance. Any inadequacies in the quality control or inspection system must be identified to the PAH for corrective action.

**NOTE: The approval or acceptance of changes at an associate facility will remain with the office having CM responsibility for the original PAH. If the original PAH has delegated responsibility to approve changes to the associate facility, the CM office of the associate facility will approve the changes.**

**161. PRIORITIZATION OF REVIEW.** Review of a facility's changes to its quality control or inspection system should be prioritized according to its resource targeting grouping. For example, the changes at a facility rated as Group I will be reviewed prior to the changes for a facility rated as Group II, III, or IV. Reviews of changes from facilities in the same resource targeting group will be prioritized by date of notification or receipt of applicable data.

**162. REVIEW OF CHANGES.** The cognizant MIDO/MISO/CMU should review changes to the quality control or inspection system to ensure that:

**a.** The quality control or inspection system will continue to adequately provide for the consistent acceptance of only those products or parts thereof which are in conformity with the approved design data and in a condition for safe operation.

**b.** The quality control or inspection system will continue to meet the intent of the pertinent rules, and can be realistically implemented.

**NOTE: The conditions identified in paragraphs 162a and 162 b above may often be verified through data review alone. In some instances, however, on-site inspection or review may be required.**

**163. POST-REVIEW ACTIONS.** The cognizant MIDO/MISO/CMU will:

**a.** Identify any inadequacies found in the changed quality control or inspection system and request corrective action from the PAH.

b. After any required corrective actions have been taken, process the changes as follows:

(1) For changes to a quality control system at a PC or TSO authorization holder, forward a letter to the PAH approving the quality control system changes, including applicable changes submitted to the FAA-approved inspection and test procedures. Refer to the sample letter in figure 14.

(2) For changes to an inspection system at an APIS or PMA holder, forward a letter to the PAH acknowledging that the changes comply with the applicable CFR, including applicable changes to a quality manual submitted by a PAH. The FAA does not approve any quality manual or changes thereto submitted by an APIS or PMA holder since there is no CFR requirement for submittal of data for approval. Refer to the sample letter in figure 15.

**164.-167. RESERVED.**

### **PART 3. INVESTIGATION OF SERVICE DIFFICULTIES**

**168. GENERAL.** This part provides guidance for conducting/participating in service difficulty investigations. Additional guidance is contained in FAA Order 8010.2, Flight Standards Service Difficulty Program.

a. **Source.** There are various means by which the FAA obtains information regarding service difficulties in TC products; for example:

(1) Manufacturer's notification of failures, malfunctions, and defects (reference § 21.3 and AC 21-9, Manufacturer's Reporting Failures, Malfunctions, or Defects).

(2) Service Difficulty Report (SDR) (reference §§ 121.703, 121.704, 125.409, 125.410, 135.415, and 135.416).

(3) Mechanical Interruption Summary (MIS) Report (reference §§ 121.705 and 135.417).

(4) Repair station reports of unairworthy conditions (reference §§ 145.63 and 145.79).

(5) Accident and Incident Report (reference 49 U.S.C., Subtitle II, Chapter 11, Sub-Chapter III, Sections 1131 through 1136).

(6) User complaints (general public, military, and foreign governments).

(7) Reports and information received from other FAA and government offices.

b. **MIO and ACO Investigation.** Upon receipt of a service difficulty report, the MIO having CM over the manufacturer of the identified product or part(s) thereof will investigate the information and determine if design or production deficiencies are involved. The CM ACO is responsible for corrective action to any design deficiencies.

(1) **MIO Responsibilities.** When the MIO investigation indicates that the failure, malfunction, or defect is attributable to deficiencies in the manufacturer's quality control/inspection system, the information will be forwarded to the CM DO along with a request for an investigation.

**FIGURE 14. SAMPLE LETTER OF APPROVAL FOR QUALITY CONTROL  
SYSTEM CHANGES BY A PC OR TSO AUTHORIZATION HOLDER**

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
TRANSPORT AIRPLANE DIRECTORATE  
SEATTLE MANUFACTURING INSPECTION DISTRICT OFFICE  
2500 EAST VALLEY ROAD, SUITE C-2  
RENTON, WASHINGTON 98055-4056

August 10, 2000

ABC Aircraft Company  
4954 Airport Drive  
Renton, Washington 12345

Notification of Quality Control System Change Status

We have completed our review and evaluation of the Quality Control System changes documented in your Quality Management Manual. Your submitted data meets [specify applicable CFR.] The Federal Aviation Administration (FAA) approves the submitted data. The FAA reserves the right to require changes, additions, or clarifications that may become necessary as a result of subsequent inspections and/or evaluations.

This notification should remain on file as evidence of FAA review of your Quality Control System document.

Document Name: Quality Management Manual.

Document Number: 101248

Revision Number: C

Date: June 30, 2000

**D ewey R evu**

Dewey Revu  
[Principal Inspector or Manager]

**FIGURE 15. SAMPLE LETTER OF ACKNOWLEDGEMENT FOR INSPECTION  
SYSTEM CHANGES BY AN APIS OR PMA HOLDER**

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
NEW ENGLAND REGION  
ENGINE AND PROPELLER DIRECTORATE  
MANUFACTURING INSPECTION DISTRICT OFFICE  
CORPORATE AIR BUILDING 85-214  
BRADLEY INTERNATIONAL AIRPORT  
WINDSOR LOCKS, CT 06096

July 26, 2000

ABC Aircraft Parts Company  
4954 Airport Drive  
Newington, Connecticut 12345

Notification of Inspection System Change Status

We have completed our review and evaluation of your Inspection System changes, as documented in the submitted data presented to the Federal Aviation Administration (FAA) as evidence of compliance. The submitted data meets [specify applicable CFR.] The FAA reserves the right to require changes, additions, or clarifications that may become necessary as a result of subsequent inspections and/or evaluations.

This notification should remain on file as evidence of FAA review of your Inspection System and submitted data.

Document Name: Inspection System Manual

Document Number: 11204

Revision Number: F

Date: March 15, 2000

**Duke E. Season**

Duke E. Season  
[Principal Inspector or Manager]

(2) **MIDO Responsibility.** The MIDO will assign a high priority to service difficulty investigations, which must be completed as expeditiously as possible. The identity of a firm or private person reporting service difficulties to the FAA will not be revealed to the manufacturer. The FAA must witness any tear-down inspections or testing to be performed on defective products or parts thereof when such products or parts thereof are flagged (by FAA tags or forms) as requiring the presence of an FAA inspector during the tear-down, inspection, or test, as applicable.

**169. INVESTIGATION.** The assigned aviation safety inspector will make an investigation, independent of that performed by the manufacturer, of service difficulties, in accordance with the criteria contained in Order 8010.2. The inspector will also investigate, and include in the report, the results of any investigation conducted by the manufacturer.

**170. CORRECTIVE ACTION.** The MIDO shall formally request the manufacturer to take corrective action when the investigation discloses unsatisfactory conditions in conformity, QC or workmanship. In such cases, particular emphasis must be placed on determining by examination or reexamination of all related QC practices, data, records, etc., whether the discrepancy may also involve products and parts thereof in service, in the manufacturing process, or spares, either in storage or shipped to users. If justified, airworthiness directive action should be recommended to the CM ACO.

**171. REPORTING A SERVICE DIFFICULTY INVESTIGATION.**

**a. Report to MIO.** A report of service difficulty investigation will be prepared and submitted to the MIO in accordance with this order, Order 2150.3, and Order 8010.2. The report may be in the form of a memorandum and/or any other manner acceptable to the MIO and will include as a minimum, the following information:

- (1) Name and address of manufacturer.
- (2) Type and number of certificates or approvals held.
- (3) Make, model, and part number, as appropriate, to positively identify the defective product or part(s) thereof.
- (4) Inspector's statement of findings, including an evaluation of any investigation conducted by the manufacturer.
- (5) Inspector's conclusion as to the cause of the service difficulty.
- (6) All corrective actions requested by the DO and/or taken by the manufacturer including a copy of the DO letter to the manufacturer and the manufacturer's reply.
- (7) Effect on products in service.
- (8) Recommendations and/or further actions required.

**b. Interim Report.** In the event that the investigation is delayed for any reason, an interim report of service difficulty investigation outlining the progress of the investigation will be forwarded in a memorandum to the MIO.

**c. Violations.** When the service difficulty report and the subsequent investigation indicate that a violation exists, the investigating and reporting procedures in Order 2150.3 will also be followed.

**d. Delegation Option Authorization (DOA) Reports.** Upon notification by the FAA, DOA holders are required by § 21.277 to investigate and report to the FAA the results of their investigation and any action taken or proposed. These reports should be forwarded to the MIO and geographical ACO, which should initiate any actions deemed appropriate for the particular service difficulty involved.

**172. FOREIGN MANUFACTURERS.** Foreign manufacturers are exempted from the reporting requirements of § 21.3. When foreign manufactured products or articles approved under §§ 21.29, 21.183(c), 21.500, or 21.502 are involved in service difficulties, the MIO in the directorate that the service difficulty occurred will require an investigation. A complete report will be provided to the MIO and Standards Staff of the Directorate having geographical responsibility over the particular country where the product or article manufacturer is located. Upon receipt and evaluation of the report, the MIO having geographical responsibility will bring the matter to the attention of the CAA for further investigation and corrective action as necessary. If critical parts, processes, or methods are involved, airworthiness directives or alert bulletin action should be considered. If the condition is serious and affects safety and if adequate corrective action is not immediately forthcoming from the foreign manufacturer or CAA, action under § 13.19 would also be necessary. Coordinate such enforcement action through the Assistant Chief Counsel, Enforcement Division, AGC-300, AIR-4, and the State Department.

**173.-175. RESERVED.**

#### **PART 4. INVESTIGATION OF REGULATORY VIOLATIONS**

**176. ENFORCEMENT ACTIONS ON SAFETY-RELATED OR SYSTEMIC NONCOMPLIANCES.** The performance of CM responsibilities often results in identifying noncompliances by a PAH with the CFR or FAA-approved data. These noncompliances may be safety-related, systemic, or isolated. See appendix 7, paragraph 2g(1) through (3). The PI should exercise good judgment in determining whether or not the objective evidence identifies a safety-related or systemic noncompliance to the CFR or to FAA-approved data before initiating any enforcement action prescribed in Order 2150.3. Isolated noncompliances do not constitute a quality control or inspection system breakdown. Nevertheless, the PI should evaluate each noncompliance in accordance with Order 2150.3, chapter 2. The initiation of enforcement actions in these instances would only serve to dilute the effectiveness of the FAA compliance and enforcement program. However, when isolated noncompliances are noted, the PI must request prompt corrective action from the PAH using the procedures in part 5 of this section.

**177. ENFORCEMENT PROCEDURES.** The principal objective of the FAA compliance and enforcement program is to promote aviation safety and to protect the public interest by obtaining compliance with both the statutory and the regulatory requirements. The program ranges from educational and remedial efforts, including administrative action, to punitive legal enforcement remedies, including criminal sanctions in the most serious cases. The PI should follow Order 2150.3 for any safety-related or systemic noncompliances with the CFR. The PI should also follow Order 2150.3 when a PAH is found to be in noncompliance with FAA-approved data. Since PC and TSO authorization holders are required by the CFR to have data describing the quality system, normally in

the form of a manual, the manual is considered part of the approved data. Data deficiencies found after the FAA originally approves the data are not a basis for taking enforcement action. When such deficiencies are found, the PI should send a separate letter to the PAH requesting that appropriate corrective action be taken in a timely manner. If the PAH does not, the PI should then initiate enforcement actions as deemed appropriate.

**178. MULTIPLE ENFORCEMENT ACTIONS.** When a number of safety-related or systemic noncompliances have been noted at a PAH's facility, such as those resulting from an ACSEP or PI evaluation, the PI should process them as one enforcement action. However, when different types of enforcement actions are involved, the PI should initiate a separate enforcement action for each type of enforcement action to be taken. For example, if an evaluation results in four systemic noncompliances where administrative action is indicated, and three systemic noncompliances where legal action is deemed appropriate, the PI should process two separate enforcement actions.

**179. TIMELINESS.** To ensure that enforcement actions have the maximum effect as a compliance tool, Order 2150.3 establishes a six month goal for preparing and processing all enforcement investigation reports. This goal includes time for legal processing and preparing of notices when required. Each directorate may elect to use a performance management tool to measure the process and make improvements when necessary.

**180. INVALID ALLEGED VIOLATIONS.** The PI should advise the PAH when an alleged noncompliance, as cited in a Letter of Investigation (LOI), has been later determined to be invalid. In such cases, a Letter of Notification, Closing of Investigation, should be sent to the PAH.

**181. VOLUNTARY DISCLOSURE PROCEDURES.** Primary responsibility for monitoring the quality control or inspection system and ensuring compliance with the CFR lies with the PAH. The FAA recognizes that the PAH is in the best position to monitor the effectiveness of its own operations and system and that the FAA cannot continuously monitor every aspect of the PAH's quality control or inspection system. The FAA encourages the PAH to monitor its own system and to maintain a reporting and correction policy consistent with the FAA's reporting and correction policy. The FAA should strongly encourage the PAH to implement an internal audit program that will assist the PAH in detecting noncompliances within its system. If the PAH elects to take advantage of the reporting and correction policy, the PI and PAH should develop a definitive agreement that describes how the PAH will implement the reporting and correction policy. The agreement should define the process to be used, and should be referenced within the FAA-approved quality manual for PC and TSO authorization holders. Although the PAH may terminate the agreement at any time, doing so does not relieve it of the responsibility to take appropriate action when it or the FAA discovers noncompliances with products or noncompliances within the quality control or inspection system. If a PAH elects to self-disclose a noncompliance that has left its control, and meets all criteria identified in Order 2150.3, Bulletin 92-2, Reporting and correction policy and implementing guidance for holders of production approvals, the FAA may mitigate or alleviate civil penalties.

**182.-184. RESERVED.**

## PART 5. CORRECTIVE ACTION

**185. GENERAL.** The performance of CM responsibilities often results in identifying noncompliances by a PAH, associate facility, or delegated facility (facility) with the CFR or FAA-approved data. Refer to part 4 of this section. The facility is responsible for determining and initiating the action needed to correct a noncompliance with the CFR or FAA-approved data, and to correct the cause of a noncompliance. For corrective action to be complete after the FAA identifies a systemic noncompliance, the facility must also identify the root cause of the noncompliance to prevent its recurrence. The action taken to correct the immediate noncompliance is not considered satisfactory corrective action for systemic noncompliances. It is important, therefore, that the PI require the facility to focus on the root cause of a systemic noncompliance to prevent its recurrence, and not just on the action to immediately correct it.

**186. CORRECTIVE ACTION PROCEDURES.** As indicated in paragraph 106 above, noncompliances are recorded on Form 8100-6, or electronic equivalent. The PI will review each completed Form 8100-6 as follows to determine the appropriate method to request corrective action:

a. Determine whether the noncompliance is safety-related, systemic, isolated, or certification-related.

b. Determine whether there is a noncompliance with the CFR, FAA-approved data, internal procedures, or purchase order requirements.

**NOTE: If a facility provides objective evidence, subsequent to the issuance of a Form 8100-6, that justifiably negates the basis of the reported noncompliance, a request for corrective action of that noncompliance will not be required.**

c. Request corrective action as follows (refer to figure 16 for applicable flowchart):

(1) **Safety-related noncompliance.** Immediately notify the responsible facility by the most expeditious means available. Prepare an LOI in accordance with Order 2150.3 and submit it to the responsible facility within 72 hours of discovery. If the noncompliance affects delivered products or services, secure from the responsible facility a list of the end users affected and immediately notify the cognizant ACO, MIO, MIDO, or CMO.

(2) **Systemic noncompliance with CFR or FAA-approved data.** Prepare and forward an LOI to the responsible facility in accordance with Order 2150.3.

(3) **Systemic noncompliance with facility's internal procedures.** Prepare and forward a letter to the responsible facility requesting immediate corrective action.

(4) **Systemic noncompliance with purchase order requirements (by a supplier to a PAH or associate facility).**

(a) **Impacts PAH's or associate facility's compliance with the CFR or FAA-approved data.** Prepare and forward an LOI to the PAH in accordance with Order 2150.3.

**(b) Impacts PAH's or associate facility's compliance with its internal procedures.**

Prepare and forward a letter to the PAH requesting immediate corrective action.

**NOTE: Systemic noncompliances identified on Form(s) 8100-6 during a supplier control or product audit conducted as the result of a hand-off will be transmitted to the requesting MIDO or CMO for action with the PAH or associate facility as appropriate.**

**(5) Isolated noncompliance with CFR or FAA-approved data.** Prepare and forward a letter to the responsible facility requesting immediate corrective action.

**(6) Isolated noncompliance with facility's internal procedures.** The means of obtaining corrective action is at the discretion of the PI.

**(7) Isolated noncompliance with purchase order requirements (by a supplier to a PAH or associate facility).**

**(a) Impacts PAH's or associate facility's compliance with the CFR or FAA-approved data.** Prepare and forward a letter to the PAH requesting immediate corrective action..

**NOTE: Isolated noncompliances identified on Form(s) 8100-6 during a supplier control or product audit conducted as the result of a hand-off will be transmitted to the requesting MIDO or CMO for action with the PAH or associate facility as appropriate.**

**(b) Impacts PAH's or associate facility's compliance with its internal procedures.** The means of obtaining corrective action is at the discretion of the PI.

**(8) Certification-related noncompliance.** Prepare and forward a letter to the responsible facility requesting immediate corrective action.

**NOTE: Multiple Form(s) 8100-6 applicable to one facility may be grouped into one LOI or letter.**

**(9)** When a determination is made in accordance with paragraph 125 above that a PAH or associate facility is not controlling its suppliers, a request for corrective action should be transmitted after completion of the final supplier control audit scheduled for the fiscal year. The letter of transmittal will factually and concisely summarize the specific noncompliance(s). When it has been determined that the noncompliances constitute a violation of the CFR, the transmittal shall be prepared as an LOI in accordance with Order 2150.3.

**NOTE: Upon completion of a scheduled PI evaluation or supplier control audit, the PI may request corrective action from the PAH or associate facility for specific noncompliances discovered. For example, if a supplier is not maintaining proper tool and gauge calibration as required by the purchase order, corrective action for that noncompliance should be requested from the PAH or associate facility upon completion of the supplier control audit. On the other hand, corrective action for lack of supplier control would not be requested unless there was evidence of a similar system breakdown in tool and gauge calibration at several suppliers to the PAH or associate facility.**

(10) Issue an LOI to the PAH or associate facility whenever parts are sold by a supplier outside the scope of the PAH's or associate facility's authority. These are considered to be unauthorized sales by a PAH supplier, and the parts are considered unapproved as described in FAA Order 8120.10, Suspected Unapproved Parts Program. The LOI is needed as part of the investigation into the supplier activity and to fully document and further the related investigation wherever it may lead. However, the PAH or associate facility should not be held accountable for parts produced outside the scope of its approval without its consent and/or knowledge.

**187. CORRECTIVE ACTION RESPONSE.** The PI with CM responsibility must ensure that the responsible facility identifies and takes corrective action on all systemic noncompliances with the CFR or FAA-approved data. It is not unreasonable for the PI to expect the facility to address each of the following items in the corrective action response:

- a. Immediate action taken to correct the systemic noncompliance(s) identified in the LOI.
- b. Action taken to identify any product or part(s) thereof affected by a systemic noncompliance, and any action required to effect immediate corrective action thereto.
- c. Action taken to examine other areas or items that might have a similar systemic noncompliance(s).
- d. Identification of the root cause of each systemic noncompliance.
- e. Action taken to prevent future recurrence(s) of systemic noncompliances.
- f. A schedule for completing immediate and root cause corrective action for each systemic noncompliance, including whom will take the action.

**NOTE: FAA compliance and enforcement policy considers the effectiveness of a facility's corrective action to be very important in determining the type of enforcement it will pursue and the appropriate sanction.**

**FIGURE 16. CORRECTIVE ACTION FLOWCHART**



**188. CORRECTIVE ACTION VALIDATION.** Corrective action validation should determine that the proposed corrective action was correctly implemented and that the corrective action completely eliminated the noncompliance. The PI should schedule a visit to the responsible facility and/or supplier facility to evaluate corrective action commitments. The PI should schedule the visit far enough in the future to ensure that the facility and/or supplier have fully implemented the corrective action and that the action has become a routine element of the quality control or inspection system, or of a delegated facility's design approval system when applicable. A visit to the facility may coincide with a scheduled audit or evaluation, when appropriate. Occasionally, the PI may be required to validate corrective actions at a supplier facility or satellite MMF located outside of the geographical boundary of the responsible CM office. In this case, the PI may elect to visit the supplier facility or satellite MMF to validate the corrective action or request the geographic MIDO or CMU where the supplier or satellite MMF is located to validate the corrective action. See paragraph 97c of this order. If the facility is located in a bilateral country, the PI may formally request that the responsible CAA validate the corrective action; include the information from paragraph 97c(1) of this order as applicable. Document results of completed corrective action validations in the facility's Enforcement Investigation Report file.

**189.-191. RESERVED.**

## **PART 6. UNSCHEDULED AUDITS, EVALUATIONS, OR INVESTIGATIONS**

**192. GENERAL.** Section 2 of this chapter provides for scheduled PI evaluations, product audits, supplier control audits, and ACSEP evaluations. However, any one of these audits or evaluations may be performed on a non-scheduled basis at the discretion of the managing office whenever necessary to ensure continued operational safety. Section 3 of this chapter discusses investigation of service difficulties and regulatory violations. Other random investigations may arise for purposes such as suspected unapproved parts or whistle blower allegations.

**193. NON-SCHEDULED CM AUDITS/EVALUATIONS.** The managing office will determine the type of audit or evaluation that will provide the best assessment of the applicable situation. A non-scheduled CM audit or evaluation will be planned, conducted, and reported in accordance with section 2 of this chapter to the greatest extent practicable. Appropriate emphasis on planning the audit or evaluation should be provided despite the reduced time that may be available between the decision to conduct the audit or evaluation and the actual conduct of the audit or evaluation. Situations that may warrant a non-scheduled CM audit or evaluation may include:

- a. Accidents and incidents.
- b. Deliberate violations.
- c. Repetitive SDR's.
- 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.

**h.** Relocation of production facility.

**i. Surveillance Requests from CAA's.** A U.S. manufacturer that has entered into a supplier, subcontractor, or other similar relationship with a foreign manufacturing entity (e.g., a manufacturer of aircraft, aircraft engines, or propellers; a repair station; or an air carrier) may produce, identify and deliver civil aeronautical products and parts thereof to that entity without obtaining an FAA design and production approval under part 21. The purchase order or similar contract/procurement agreement, from the foreign manufacturer to the supplier manufacturer should provide any evidence of the sales relationship to the FAA as needed. These products or parts thereof are to be produced in support of a design approval issued by a CAA, to include modifications made to a type design by repair stations or air carriers (e.g., TC, STC, CAA-approved modification). The regulatory responsibility for control or oversight of a U.S. manufacturer acting strictly as a supplier to a foreign manufacturing entity resides with the CAA having oversight of that design and/or production approval. The FAA assumes no regulatory responsibilities for these programs, and will only provide assistance in surveillance of the U.S. supplier through a special written arrangement with the CAA under the provisions of the bilateral airworthiness agreement.

(1) A CAA request should include clear, concise, and specific instructions to the FAA that includes the following: company name, address, phone number, and point of contact; details concerning the extent of surveillance to be conducted on behalf of the CAA; and, documentation to be submitted to the CAA. The responsible geographic MIO or CMO shall assure that the request is complete before assigning it to a MIDO, MISO, or CMU.

(2) The responsible geographic MIDO, MISO, or CMO shall review all completed documentation being submitted to the CAA to ensure the requirements of the CAA request have been met. On completion of the review, and incorporation of any applicable corrections, the responsible geographic MIDO, MISO, or CMO shall prepare a cover letter to accompany the documentation and forward it to AIR-4 for review and comment. After incorporating any applicable corrections to the cover letter, the completed documentation and cover letter shall be forwarded to the MIO manager for signature. The MIO manager shall forward all documentation to the requesting CAA.

(3) When the CAA conducts its own surveillance activities at a U.S. manufacturer, the FAA may be invited to observe or participate. The responsible geographic MIDO, MISO, or CMO should consider accepting the CAA invitation only when there is no impact on scheduled ongoing CM activities or other random CM activities with higher priority.

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

**194. OTHER RANDOM INVESTIGATIONS.** Suspected unapproved part notifications will be investigated in accordance with the current issue of Order 8120.10. Any other investigations that may be required will be conducted in accordance with available specific guidance. In the absence of specific guidance, the managing office will determine the type of investigation that will provide the best assessment of the applicable situation. In some situations, a specific CM audit or evaluation may be appropriate.

**195.-197. RESERVED.**

**PART 7. PROVIDING GUIDANCE TO A PAH OR ASSOCIATE FACILITY**

**198. GENERAL.** The PI should provide guidance to a PAH or associate facility as necessary for the manufacturing of products or parts thereof produced under the approved quality control or inspection system. The guidance provided by the PI may include, but is not limited to, the following:

- a.** Quality control or inspection system changes.
- b.** Facility changes.
- c.** Technical assistance.
- d.** Updating supplier lists.
- e.** Service difficulty and corrective action review.
- f.** Support of ACSEP evaluations.
- g.** Regulatory requirements, changes to guidance materials, or industry best practices.
- h.** Interpretation of applicable regulations.



## **APPENDIX 1. EVALUATION OF A PAH'S QUALITY CONTROL OR INSPECTION SYSTEM**

**1. PURPOSE.** This appendix provides guidance to thoroughly review all data submitted by a PAH that describes the quality control or inspection system required for the applicable production approval. This data may include a quality manual, procedures, policies, standards, instructions, and/or processes. Any inadequacies in the data submitted must be identified to the PAH for corrective action. After the data has been reviewed, and any applicable corrective actions taken, the MIDO or CMO will approve or accept the data, as applicable.

**2. DATA REVIEW.** All quality control or inspection system data submitted to the cognizant MIDO or CMU must be reviewed to ensure that:

**a.** The described quality control or inspection system will adequately provide for the consistent acceptance of only those products or parts thereof which are in conformity with the approved design data and in a condition for safe operation.

**b.** The quality control or inspection system is adequately described, meets the intent of the pertinent rules, and can be realistically implemented. Be wary of data that is overly descriptive, since such data may often be difficult to implement.

**c.** The data are identified by title, revision, and date, and contain the signature of the appropriately authorized person in the PAH's organization.

**d.** The data is well organized, unambiguous, and not subject to misinterpretation.

**e.** Inspection procedures are well organized and easy to understand and implement.

**f.** The quality control or inspection system adequately defines when a product or part(s) thereof has officially left the control of the quality or inspection system.

**g.** Statistical sampling plans are clearly documented. The ASI must ensure that sampling plans based on valid consensus standards do in fact comply with those standards (e.g., MIL-HDBK-683, Statistical Process Control (SPC) Implementation and Evaluation Aid; MIL-HDBK-1916, Companion Document to MIL-STD-1916; "Zero Acceptance Number Sampling Plans," by Nicholas Squeglia, ASQ Quality Press). Sampling plans that are not based on valid consensus standards should be closely examined to determine their statistical validity (Juran & Gryna, *Quality Control Handbook*, may be used as an aid in determining this validity). Regardless of the basis of the sampling plans utilized, the PAH is responsible to ensure that all products or parts thereof conform to the approved design data. Therefore, the ASI should ensure that the acceptance/rejection criteria will not allow for acceptance of nonconforming product or parts thereof. If specific experience or expertise is required to review sampling plans, the PI should advise the MIDO or CMO manager. Additional information is available on the FAA web site via the Statistical Quality Control (SQC) Best Practice. The following should be considered when reviewing sampling plans:

**(1) Controlled process.** Prior to implementing a sampling plan, objective evidence must exist that demonstrates and ensures that the process(es) used to manufacture sampled characteristics are documented, controlled, repeatable, and consistent.

## **APPENDIX 1. EVALUATION OF A PAH'S QUALITY CONTROL OR INSPECTION SYSTEM (CONT'D)**

**(2) Characteristics classified.** Each characteristic that will be part of the sample plan must be identified, evaluated, and properly classified. Characteristics are classified based upon the effect they may have on safety or usability of the product.

**(3) Proper and reasonable sample sizes.** Specific sample sizes should be chosen based upon the lot/batch size, the characteristic classification and criticality, the design tolerances being measured, and the probability of accepting nonconforming products or parts thereof.

**(4) Unbiased sample selection.** The plan should fully describe how samples are selected. The sample method must be unbiased; that is, the sample selection method does not unfairly weight a particular time frame, production sequence, tooling configuration, operator(s), batch, etc. In order to ensure an unbiased representative sample, the lot, batch, or group should be homogeneous (i.e., consisting of the same characteristics, type, grade, class, composition, and manufactured under the same data and conditions, and manufactured at approximately the same time)

**(5) Samples are controlled.** When sampling is used, the results of the selected sample apply to the entire lot, batch, or grouping. The lot, batch, or group should be clearly identified and segregated throughout the entire sampling, inspection, and possible disposition process. In the event that any characteristics are found to be nonconforming in the sample, the entire lot, batch, or grouping must be withheld pending additional analysis, ensuring that there are no other nonconforming parts. Should this analysis indicate the possible existence of additional nonconforming parts, the entire lot, batch or grouping must be dispositioned in accordance with the PAH's approved material review procedures. In all cases, the PAH is responsible to ensure that all products and parts thereof conform to the approved design data.

### **3. DATA APPROVAL/ACCEPTANCE STANDARDS.**

**a. PC or TSO Authorization Holder.** The cognizant MIDO or CMU will determine the adequacy of the data reviewed in accordance with paragraph 2 above. Any inadequacies in the data submitted must be identified to the PAH for corrective action. After the data has been reviewed, and any applicable corrective actions taken, the MIDO or CMU will prepare a letter approving the PAH's quality control data and forward it to the PAH. The cognizant MIDO or CMU should also send a copy of the approved letter to the cognizant ACO. This data, the pertinent 14 CFR, and the FAA-approved design data comprise the standards with which the PAH must show continued compliance.

**b. APIS or PMA Holder.** The cognizant MIDO or CMU will determine the adequacy of the data reviewed in accordance with paragraph 2 above. Any inadequacies in the data submitted must be identified to the PAH for corrective action. After the data has been reviewed, and any applicable corrective actions taken, the MIDO or CMO will accept the inspection system data submitted by the APIS or PMA holder. The FAA does not approve this data since there is no part 21 requirement for submittal of this data for approval. This data, the pertinent 14 CFR, and the FAA-approved design data comprise the standards that will be used when performing CM activities at the APIS or PMA holder.

**APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9,  
RESOURCE TARGETING FACILITY ASSESSMENT SHEET**

- 1. PURPOSE.** This appendix provides instructions for completing FAA Form 8100-9, or electronic equivalent.
- 2. FACILITY ASSESSMENT.** Figure 1 shows sample data entry screens for the automated Resource Targeting Facility Assessment Sheet. Blocks 1 through 8 provide the information required to assess the facility and to print a copy of Form 8100-9.
- a.** Using the Resource Targeting Facility Assessment System software application, access the automated Resource Targeting Facility Assessment Sheet by clicking on “Add New Record.” Prepare the form as follows:
- (1) Block 1.** Enter the name of the facility being assessed. If there are several facilities with the same name, include a specific identifier, such as the location. The facility name entered should be consistent with other FAA documents listing the facility name. If the facility has changed its name since the last assessment, enter the previous facility name, a forward slash, the current facility name, and a forward slash; e.g., XYZ Aircraft Company/ABC Manufacturing/.
- (2) Block 2.** Enter the Project Number (s). If there are several project numbers, all project numbers associated with the facility may be entered. Place an X in the primary block for the project number that represents the highest category product or part(s) thereof produced by the facility. If more than one project number meets this criteria, select any one as the primary. The data for all the projects will be maintained in the database; however, only the primary project number will be printed.
- (3) Block 3.** Enter the name of the PI assigned to the facility.
- (4) Block 4.** Enter the name of the MIDO or CMU to which the PI is assigned, or managed from. The MIDO or CMO manager should establish the standard name format to be used to ensure proper sorting of the Office Report.
- (5) Block 5.** Enter the date the data is being entered.
- (6) Block 6.** Click on "Yes."
- (7) Block 7.** Click on one of the following boxes for each of the 21 indicators listed, based on the criteria in appendix 3. After selecting the appropriate block, click on “Next Indicator” to proceed to the next indicator. Continue until all 21 indicators have been assessed.
- (a) A:** Click on this box when the indicator being assessed occurred or existed during the rating period, and there is, as a result, an increased potential for nonconforming products or parts thereof.
- (b) B:** Click on this box when the indicator being assessed occurred or existed during the rating period, but there is, as a result, no increased potential for nonconforming products or parts thereof.

**APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9,  
RESOURCE TARGETING FACILITY ASSESSMENT SHEET (CONT'D)**

(c) **C:** Click on this box when the indicator being assessed did not occur or exist during the rating period.

(8) **Block 8.** Click on the appropriate Unit Criticality block that best describes the highest category product or part(s) thereof at the facility.

b. When blocks 1 through 8 above have been completed, click on “Print Report” to obtain a printout of the entered data on Form 8100-9.

c. **Description of Data Entry Screen Buttons.** The primary data entry screen buttons used to perform the facility assessment have been addressed in paragraphs 2a and 2b above. Other buttons are used mainly for navigating or exiting the application. The complete list of buttons is described as follows:

(1) **A:** Described in paragraph 2a(7)(a) above.

(2) **B:** Described in paragraph 2a(7)(b) above.

(3) **C:** Described in paragraph 2a(7)(c) above.

(4) **Go to:** Allows selection of a specific indicator by entering a number between 1 and 21. This feature is useful for returning to an indicator that may have been deferred while waiting for additional information.

(5) **Add Record:** Provides a blank data entry screen for entry of data for another facility. Data entered on the screen displayed will be saved.

(6) **Previous Indicator:** Allows selection of the indicator that precedes the indicator currently displayed on the data entry screen. This feature allows for review of the previous indicator and for modifying any applicable entries when required.

(7) **Next Indicator:** Allows selection of the indicator that follows the indicator currently displayed on the data entry screen. This feature allows for sequential data entry of each indicator, as well as a means to review completed entries.

(8) **New Record:** Provides a blank data entry screen for entry of data for another facility. Data entered on the screen displayed will be saved.

(9) **Print Record:** Allows printing of Form 8100-9 when it has been partially completed.

(10) **Main Menu:** Allows a return to the opening screen of the software application.

**APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9,  
RESOURCE TARGETING FACILITY ASSESSMENT SHEET (CONT'D)**

(11) **Cancel:** Allows for cancellation of the data entry for a facility prior to adding it to the record file. Canceling a record will delete all data entry for that record and force a return to the Main Menu.

(12) **Quit:** Allows for exiting the software application without returning to the Main Menu. Data entered on the screen displayed will not be saved.

(13) **Quit App:** Allows for exiting the software application without returning to the Main Menu. Data entered on the screen displayed will not be saved.

(14) **Print Report:** Allows printing of Form 8100-9 when all data entry is complete for a facility.

**3. FACILITY ASSESSMENT REVIEW.** Figure 2 shows a sample of Form 8100-9 based on the data entered in figure 1. Blocks 1 through 4 provide the information required to document the review process detailed in paragraph 112 of this order. Prepare the form by inserting in:

- a. **Block 1.** The typed or printed name and signature of the PI upon completion of the assessment.
- b. **Block 2.** The date the form is completed.
- c. **Block 3.** The typed or printed name and signature of the MIDO or CMO manager upon agreement with the completed assessment.
- d. **Block 4.** The date the MIDO or CMO manager agreed with the completed assessment.

**4. RESOURCE TARGETING GROUP ASSIGNMENT.** Block 5 of figure 2 provides information about the resource targeting group assignment after receipt and disposition of the Directorate and Office Reports. Insert in Block 5 the resource targeting group listed in the Office Report. Line out the box labeled " Adjusted resource targeting group."

## APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9, RESOURCE TARGETING FACILITY ASSESSMENT SHEET (CONT'D)

FIGURE 1. SAMPLE FAA FORM 8100-9 ENTRY SCREEN

ACSEP Resource Targeting Facility Assessment Sheet

ID: 66 Facility: XYZ Aircraft Company Project #: PA -9999-CE- Primary:

Principal Inspector: John Smith MIDO: Orlando Response Date: 12/11/1998

Have you performed any on-site certificate mgmt functions at the facility in the last 12 mths? Yes No

**Safety Indicators:** Use the scroll bar to the right of the text window below to view and read all criteria.

1. Change in Key Management

Management changes can have a significant impact, positive or negative, on a company's safety profile and potential for producing nonconforming outputs. In rating this indicator, consider the following:

- Management changes generally have a greater impact on small companies than on large companies, all other things being equal.
- Key managers may include people such as the director of quality/quality manager, facility manager, chief engineer, section or line managers, DOA/DAS coordinator, or company president/CEO.

Indicator 1: A B C Go To ...

Add Record Previous Indicator Next Indicator Print Record Main Menu Cancel Quit App

**KEY:** A) Applicable to company/facility for this rating period, increased potential for nonconforming products, parts, or services  
B) Applicable to company/facility for this rating period; NO increased potential for non-conforming products, parts, or services  
C) Not applicable to company/facility for this rating period.

Record: 1 of 1

Unit Criticality

Category 1 Product, Part or Appliance  
Failure could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations.

Category 2 Product, Part, or Appliance  
Failure would not prevent continued safe flight and landing; resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.

Category 3 Product, Part, or Appliance  
Failure would have no effect on continued safe flight and landing of the aircraft.

Previous Indicator New Record Main Menu Quit Print Report Add Projects

**APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9,  
RESOURCE TARGETING FACILITY ASSESSMENT SHEET (CONT'D)**

**FIGURE 2. SAMPLE FAA FORM 8100-9**



**Resource Targeting Facility Assessment Sheet**

U.S. Department of Transportation  
**Federal Aviation Administration**

---

**Facility Name: XYZ Aircraft Company**

Project #: PA9999CE  
MIDO/CMU: Orlando

**Response Date: 3/11/01**

**Principal Inspector: Smith**

---

**Have you performed any on-site certificate management functions at the facility in the last 12 months? Yes**

---

1.	Change in Key Management	C
2.	Turnover of Critical Staff	C
3.	Reduction in Workforce/Layoffs	C
4.	Expansion or Growth	B
5.	Merger or Takeover	C
6.	ACSEP or PI/CM Noncompliances	C
7.	Civil Penalties	C
8.	Corrective Response History	C
9.	Cost of Quality	C
10.	Service Difficulties	C
11.	Complex Manufacturing Process	B
12.	Complex Product, Part, or Appliance	B
13.	New Manufacturing Process	C
14.	New/Emerging Technology	B
15.	Production Volume	B
16.	Product Continuity	B
17.	QC System Changes	C
18.	Engineering/Design Changes	B
19.	Increased Inspection Delegation to Suppliers	C
20.	Increased Use of Foreign Suppliers	A
21.	New Design in Production	B

**Criticality:** Category 1 Product, Part or Appliance

**Key:**

A) Applicable to company/facility for this rating period, increased potential for nonconforming products, parts, or services

B) Applicable to company/facility for this rating period, no increased potential for nonconforming products, parts, or services

C) Not applicable to company/facility for this rating period

FAA Form 8100-9 (xx/01)

FOR OFFICIAL USE ONLY (when filled in)  
Public availability to be determined under 5 U.S.C. 552

**APPENDIX 2. PREPARATION INSTRUCTIONS FOR FAA FORM 8100-9,  
RESOURCE TARGETING FACILITY ASSESSMENT SHEET (CONT'D)**

**FIGURE 2. SAMPLE FAA FORM 8100-9 (CONT'D)**

<b>Facility Name: XYZ Aircraft Company</b>		<b>Response Date: 3/11/01</b>	
Project #: PA9999CE		Principal Inspector: Smith	
MIDO/CMU: Orlando			
<b>Have you performed any on-site certificate management functions at the facility in the last 12 months? Yes</b>			
<hr/>			
Principal Inspector:	<u>John Smith</u> ❶	Date:	<u>1/7/98</u> ❷
MIDO/CMO Manager:	<u>Mary Doe</u> ❸	Date:	<u>1/7/98</u> ❹
❺	Assigned resource targeting group: II	Adjusted resource targeting group:	

FAA Form 8100-9 (xx/01)

FOR OFFICIAL USE ONLY (when filled in)  
Public availability to be determined under 5 U.S.C. 552

**APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA**

**1. PURPOSE.** This appendix provides additional guidance to assist the PI in completing the assessment section of the automated Resource Targeting Facility Assessment Sheet. Refer to appendix 2, paragraph 2a(6).

**2. SPECIFIC GUIDANCE.** There are 21 resource targeting indicators in the automated Resource Targeting Facility Assessment Sheet. These indicators are listed in figure 1 below. The PI must assess each of these indicators. The criteria listed below provide guidance to assist the PI in completing this assessment. The criteria are intended to prompt the PI to consider a variety of elements and issues that may be applicable to the facility being assessed, and to make an informed judgment about the facility. The number assigned in parentheses to each criteria corresponds directly with the indicator number on the automated Resource Targeting Facility Assessment Sheet.

**Figure 1. Resource Targeting Indicators**

<b>1.</b>	Change in Key Management
<b>2.</b>	Turnover of Critical Staff
<b>3.</b>	Reduction in Workforce/Layoffs
<b>4.</b>	Expansion or Growth
<b>5.</b>	Merger or Takeover
<b>6.</b>	ACSEP or PI/CM Noncompliances
<b>7.</b>	Civil Penalties
<b>8.</b>	Corrective Response History
<b>9.</b>	Cost of Quality
<b>10.</b>	Service Difficulties
<b>11.</b>	Complex Manufacturing Process
<b>12.</b>	Complex Product, Part, or Appliance
<b>13.</b>	New Manufacturing Process
<b>14.</b>	New/Emerging Technology
<b>15.</b>	Production Volume
<b>16.</b>	Product Continuity
<b>17.</b>	QC System Changes
<b>18.</b>	Engineering/Design Changes
<b>19.</b>	Increased Inspection Delegation to Suppliers
<b>20.</b>	Increased Use of Foreign Suppliers
<b>21.</b>	New Design in Production

**a. Change in Key Management (1).** Management changes can have a significant impact, positive or negative, on a company and its production/quality profile. In rating this indicator, consider the following:

**(1)** Management changes generally have a greater impact on small companies than on large companies, all other things being equal.

### **APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

(2) Key managers may include people such as the director of quality/quality manager, facility manager, chief engineer, section or line managers, DOA/DAS coordinator, or company president/CEO.

(3) The background of new management personnel is key. In general, internal selections are less problematic than external hires, although a solid aviation or product background may compensate. Similarly, civil experience is often preferable to a military aviation background, since knowledge of the CFR and experience with the FAA are important.

(4) The reason behind any change(s) is also important. If it's performance-based, then the change may be an improvement. On the other hand, downsizing, streamlining, and reorganizations can reduce the amount of production/quality oversight within the company. New programs or product lines may alter existing lines of authority and supervision. Ownership changes may result in wholesale replacement of managers.

(5) Management changes can also affect overall company philosophy or operational priorities. A shift to a more aggressive sales focus may lead to reduced emphasis on compliance to the CFR and on quality. Cost-cutting and greater "bottom line" pressure can undermine or dilute a company's quality orientation.

**b. Turnover of Critical Staff (2).** Loss of staff members who play a critical role in ensuring quality can dramatically impact the production of conforming products or parts thereof. Consultation with the appropriate ACO may be helpful in identifying these people and assessing the effect of their departure. Think about these issues if turnover of this type has occurred:

(1) Critical staff turnover generally has a greater impact on small companies than on large companies, all other things being equal.

(2) Critical staff may include people such as quality inspectors, foremen, engineers, test technicians, audit staff, designees; any one-of-a-kind specialty (e.g., level III NDT); or any key FAA contact.

(3) If losses are replaced or backfilled, consider the background of new staff. As with key managers, internal selections are preferable to external hires, although a solid aviation or product background may compensate. Similarly, civil experience is generally better than military, due to CFR/FAA familiarity. Technical expertise, however, is paramount for individuals in these key positions.

(4) If losses are not replaced or backfilled, consider the context. If the company is downsizing, streamlining, or reorganizing, losses of this type will almost always impact quality. If, on the other hand, the changes result from the end of a major project or program, there may be no cause for alarm.

(5) In any event, consider the strength of the company's quality system. If it's well established, with fully documented procedures, then it may be able to absorb the loss of key people without affecting

**APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

quality. Consider whether the quality program remains intact, and is not being scaled back as these individuals leave.

**c. Reduction in Workforce/Layoffs (3).** Workforce reductions and layoffs may or may not have an impact on quality; it depends on how and why they occur, and who's involved. Consider the following in assessing this indicator:

(1) Workforce reductions can generally be managed/absorbed more easily by large companies than by small companies, all other things being equal.

(2) The pace or rate of any reduction is important. If it's gradual, steady, and implemented over time, then there may be no cause for concern. On the other hand, if it's abrupt, haphazard, or uncoordinated, and/or occurs over a short timeframe, that's probably a sign of potential trouble.

(3) Obviously who is being downsized or laid off is critical. Assemblers and line staff may be of concern, while administrative and support staff probably won't be. Reductions in quality, engineering, or other areas key to FAA's interests should always raise a red flag.

(4) Another key consideration is the reason(s) for the reduction. If it's due to the end of a major program, or part of a normal industry cycle, it may not be problematic. Downsizing, streamlining, and reorganizations, by contrast, may be of concern depending on how they're handled. Any deemphasis on aviation work should be viewed with caution. In some cases, reductions may primarily involve the military versus the civil side of the house, and pose no great concern to the FAA.

(5) Whether or not the remaining staff are being retrained or crosstrained to perform new functions is also a factor here. The basic qualifications of staff performing key functions or roles, as well as the adequacy and effectiveness of any training provided to people assuming new or expanded duties, should be factored into your determination.

**d. Expansion or Growth (4).** A company's expansion or growth can also raise potential quality concerns. Again, the how and why of these events is what you should look at when evaluating this indicator:

(1) The speed and breadth of growth are critical. If it's controlled and steady, as opposed to rapid, "overnight" expansion, there's generally less potential for problems. If the growth involves opening a new facility or facilities, or results in new or additional geographic dispersion of the workforce, there could be quality issues.

(2) The nature of any growth also needs to be considered. More of what they've already been doing is generally not a problem. But if they're expanding into new business areas, product lines, technology, or production methods, watch out. Likewise, if they're acquiring new/additional approvals, heightened concern may be warranted.

### **APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

(3) Don't overlook proxy growth, or internal growth, i.e., things that may not be immediately obvious. Greater use of outsourcing, subcontracting, or suppliers can expand a company's business without changing its staff or facility size. Similarly, an internal shift from military to civil work can significantly affect the quality picture. Generating more output with the same or fewer resources, through process streamlining or productivity enhancements, can also create de-facto growth.

(4) The extent to which staff size and capability have kept pace with any growth is also important. If they've added people, particularly designees, and/or provided appropriate training to staff in any new areas, that's a sign of well-managed growth. The absence of such actions should probably raise a red flag.

**e. Merger or Takeover (5).** Mergers and takeovers have become increasingly common in the aviation industry. Who's buying and what they are doing to or with the acquired company and its system should drive your rating here:

(1) A key question is whether or not the buyer (company or individual) has an aviation background; if not, you may be in for problems, at least initially. If they do, prior FAA experience and knowledge of the CFR is an additional plus, since they'll know the ropes better and also have a compliance track record you can check.

(2) A second key consideration is the impact on quality system(s). If the companies' products are substantially different, integrating their quality systems may be challenging and problematic. If a current PAH is taken over, keeping the core system approved by the FAA intact is of prime concern. Retaining key people, or replacing them with qualified staff, is also important here.

(3) Some merger or takeover transactions have no real impact in terms of quality. The outcome may simply be a name change, and/or it may occur at a very high level, e.g., mega-mergers among major DOD contractors. In these cases there's often no impact on the civil side of the company, or the changes don't trickle down to affect the production approval holder level.

**f. ACSEP or PI/CM Noncompliances (6).** Noncompliances resulting from prior FAA evaluations of an approval holder are a key part of any company's quality track record. In evaluating this indicator, consider the following variables:

(1) Critical system elements generally include, but are not limited to, supplier control, manufacturing processes, special manufacturing processes, and design data control.

(2) Multiple noncompliances from any single ACSEP evaluation, or over the course of a year as a result of PI evaluations, product audits, and supplier control audits may be a signal of systemic problems. One or more safety-related noncompliances, or evidence that any system element is not under control, are also usually grounds for heightened concern.

**APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

(3) Any repeat noncompliances, either in ACSEP evaluations, PI evaluations, product audits, or supplier control audits, should raise a red flag. It's important, though, to consider how many full ACSEP evaluations the company has been through, and what the general trend in evaluation results has been. Companies that have been through multiple evaluations should, in general, perform better than first-timers. If they're not improving or holding steady, beware.

(4) Any sudden and/or significant negative change in a company's performance (e.g., from a single, minor noncompliance to multiple noncompliances, and/or the occurrence of safety issues) should be viewed with apprehension.

**g. Civil Penalties (7).** Assessment of a civil penalty against a production approval holder is a significant sanction by the FAA. In evaluating this indicator for a given company, however, consider the following circumstances:

(1) The number, frequency, and nature of civil penalty actions is important. A single, isolated incident which resulted in a civil penalty may not be cause for alarm. Two or more civil penalties within one year, however, or any civil penalty based on safety-related items, generally should be considered problematic.

(2) The company's civil penalty history is also important in assessing this indicator. In particular, any repeat civil penalty items, or any civil penalty issued due to failure to comply with an earlier administrative action, should raise a red flag.

(3) The overall magnitude or impact of the violation(s) may also be relevant to your assessment. For example, if an infraction involved a large number of products or units in service, and/or a high dollar value of materials, its quality impact may be more significant. Likewise, civil penalties that resulted from a suspected unapproved part investigation may also signal more serious problems.

**h. Corrective Response History (8).** An approval holder's corrective response history is an indication of how seriously the company takes its quality responsibilities. Key variables associated with this indicator include the following:

(1) PAH responsiveness to problems is an important consideration. Some hallmarks of responsiveness include: demonstrated understanding of the issue(s) involved; timely, thorough, and complete action to fix problems; and taking steps to avoid repetition, e.g., by making changes to their system. The absence of one or more of these attributes is generally cause for concern.

(2) In some cases non-responsiveness may be unintentional, or due to mitigating circumstances. Relatively new companies, for example, and/or companies with inexperienced staffs may not meet the standards defined above, at least initially. Non-responsiveness from companies that have held their approvals for more than a couple of years, however, should be considered a quality issue.

### **APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

(3) The level of trust and quality of communication between the company and the FAA are also relevant to this indicator. Fast, professional, and thorough responses to inquiries or information requests should be the norm. Frequent contact and interaction with the PI, initiated by the company, should also be viewed positively. Negativity toward the FAA, on the other hand, particularly on the part of management, can impede communication and cooperation.

**i. Cost of Quality (9).** Cost of quality information can be difficult to interpret and evaluate in terms of quality impact. Factors to bear in mind in assessing this indicator include the following:

(1) At present, cost of quality information is not generally available to the FAA. Most small companies don't track it in detail, and many others who do may be reluctant or unwilling to share it for proprietary reasons.

(2) One evaluation method is to look at the percentage distribution of quality costs among the three major cost categories of prevention, appraisal, and failure/rework. While there is no ideal distribution, in general the commitment of resources to upfront, preventive measures may indicate a more deliberate and proactive approach to quality control.

(3) Trends in a company's cost of quality over time may also be relevant. Sharp movement, either up or down, is often a warning sign. Changes in a particular area, as opposed to overall, may point to specific problems. What's behind the cost changes may also be important. New technology, new production systems or methods, or outsourcing/offshore operations can all drive cost of quality up or down.

(4) In addition to formal cost of quality data, there are also several "proxy" indicators of quality costs. High scrap or rework rates during routine production runs, for example, may be a signal of problems in the system. A high volume of warranty returns may also indicate problems, as can a high level of MRB activity.

**j. Service Difficulties (10).** In-service difficulties caused by manufacturing defects or poor quality control can be an indication of serious system problems. Consideration of the following points can assist you in evaluating this indicator. Discussion of specific points with the ACO may also be beneficial.

(1) Overall, very few service difficulties are traced back or attributed to manufacturing or quality problems; the vast majority are due to maintenance or operational factors.

(2) Generally, in-service problems are more common for large companies that manufacture long-life service parts, or entire aircraft and engines. For these kinds of approval holders, the key consideration is repetitive problems, and/or if a pattern of discrepancies emerges over time.

(3) For service difficulties which are attributable to manufacturing, the overall magnitude or impact of the problem may be relevant to your assessment. For example, if a service difficulty involved

**APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

a particularly severe or dangerous problem, or a large number of products or units in service, its quality impact may be more significant. A single isolated incident, on the other hand, may not always be cause for alarm.

(4) Significant service difficulties will generally trigger an immediate response, which can include unscheduled PI or ACSEP evaluations, as appropriate.

**k. Complex Manufacturing Process (11).** Evaluating the complexity of an approval holder's manufacturing process requires consideration of a number of variables. Major criteria to apply in this regard include the following:

(1) The number and type of steps involved in a process often drive complexity. Generally, the more things that must be tracked, controlled, and/or sequenced, and the more special processes involved, the more complex the process. In particular, the number of process elements that must be critically controlled is a complexity driver.

(2) The latitude or lack thereof afforded to system operators is also frequently linked to complexity. Other characteristics to look for include detailed and intricate process specifications, and/or frozen or limited process changes subject to engineering source approval. Similarly, the more frequently the process is audited or validated, the greater its probable complexity.

(3) Multiple, in-depth, and expensive testing requirements for the end item or product can also be a reflection of manufacturing process complexity. Intricate and sophisticated test procedures are sometimes, but not always, required based on how the product was manufactured.

(4) The qualifications and skill level of both company and FAA staff relative to the process(es) are also important. Even a simple, well-established process can be complex to those who aren't experienced in or knowledgeable of the technology involved. In most cases, the longer a company has been working with a technology, the less need for concern. Evidence that skill levels are being maintained or upgraded is also important.

(5) Outsourcing of manufacturing processes, both production and testing, is also an element to consider. If, for example, key complex elements of the process are subcontracted to highly expert firms, the potential risk may be lessened.

**l. Complex Product, Part, or Appliance (12).** Evaluating the complexity of an approval holder's product, part, or appliance likewise involves a number of variables. Consideration of the following points can assist you in evaluating this indicator. Discussion of specific points with the ACO may also be beneficial.

(1) The number of components, subsystems, or subassemblies in the end item often drives its complexity. Any dynamic or rotating parts or assemblies, as well as if the item or any of its elements is

### **APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

life-limited, are also strongly linked to complexity. Similarly, the more functions the item performs, and/or the more failure modes it has, the greater its probable complexity.

(2) The degree of integration and/or interdependence of the end item with other parts or systems is also a complexity driver. In general, clear functional boundaries between the item and other components or systems create less complexity than overlapping, integrated, or fuzzy relationships. If any other systems are dependent on the end item, that typically increases overall complexity.

(3) The materials used in the end item are also relevant to complexity. If it includes any nontraditional, exotic, or revolutionary materials, and/or material(s) that haven't been used in this way before, then its complexity is probably heightened. As with process complexity, the company's experience and skill with the material or product is also a factor. Limited knowledge or expertise can make simple things complicated.

(4) Another good indicator of complexity is the item's certification basis. If defining the rule(s) and/or finding compliance with the CFR was difficult, or if multiple exemptions or special conditions were required, that may also reflect the item's complexity.

**m. New Manufacturing Process (13).** Introduction of a new manufacturing process, whether truly original or just new to the company, can create potential quality issues. Consider the following for this indicator:

(1) Approval of the quality manual change or update incorporating any new process is a major milestone; however, it is generally not the end of PI concern and interest.

(2) How well the new process is understood by the company, the FAA, and industry in general is an important consideration. If company staff are trained or certified in the new process, and if industry standards exist, the potential for difficulties is generally lessened. If, on the other hand, the company is implementing a one-of-a-kind process, heightened concern is probably warranted.

(3) The extent to which the company has demonstrated control of any new process is also key. An acceptable or normal rejection rate and limited MRB activity are generally positive signs of control. Documented repeatability and reliability should also be expected. In-service experience with no quality problems in evidence is likewise a sign of full process integration and control.

**n. New/Emerging Technology (14).** Often what's considered new or emerging technology is in reality an extension or iteration of existing knowledge and methods. Evaluate the following criteria with respect to this indicator for companies employing new technology. Discussion of specific points with the ACO may also be beneficial.

(1) The history of the technology can help determine if the new/emerging designation is really appropriate. If it's never been used at all, by anyone in civil aviation, or if it's never been used in this

**APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

type of application, product, or system, then it should be considered new, and a potential quality system issue.

(2) The breadth of the technology's usage may also be relevant. If it's specific to this manufacturer, or perhaps to only a small number of companies, then there may be cause for concern. The absence of an established body of knowledge, e.g., industry standards, is also a good indicator that heightened FAA interest may be appropriate.

(3) The product or item's certification basis can likewise tell you if the technology is truly new. If the end item or core technology was not covered by the CFR, or if any new or revised rules resulted from its certification, it should probably be considered new technology.

(4) The technology's service history should also be considered. If it has a substantial number of service hours or cycles, such that failures are explainable, understood, and predictable to some extent, then in general it would not be considered new or emerging technology.

**o. Production Volume (15).** Changes or fluctuations in a company's production volume may or may not be cause for concern. Circumstances or influences to think about for this indicator include the following:

(1) The magnitude and rate of any volume changes are important. A fractional increase or decrease is generally not an issue, but a multiple change probably should be cause for concern. Gradual and steady adjustments can usually be managed well, while rapid and/or haphazard movement, either up or down, often indicates underlying problems.

(2) The reason for the change is likewise critical. New orders or product lines can drive up production quickly, as can short or special product runs. On the other hand, downsizing, mergers, or takeovers can move the numbers rapidly in the opposite direction. Normal industry cycles may produce predictable volume changes.

(3) When and how often changes occur is also important. If the company is pushing to meet end of month/quarter/year production targets, or to meet contract due dates and possibly avoid penalties for late deliveries, watch out. If these kinds of fluctuations are repetitive, however, the company may have enough experience with them to manage effectively.

(4) The bottom line consideration should be the company's capacity to handle the changes. If they acquire or maintain an adequate number and type of staff, including a sufficient number of designees, then concern may not be warranted. Likewise, if their quality system is revised to handle any changes, up or down, volume fluctuation may not be problematic.

**p. Product Continuity (16).** Product continuity is generally regarded as positive, but there can be a down side. Consider the following when evaluating this indicator:

### **APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

(1) Determine if the continuity has had any negative consequences. Risks include complacency, lax adherence to procedures, and corner cutting. Companies may go on “automatic pilot” after a period of time. If the product has been totally static, without even minor improvements or enhancements, that may be grounds for concern.

(2) The context of the product’s continuity is also important. If suppliers and material sources have been stable as well, that’s generally positive. However, if they’ve been constantly in flux, the continuity may be illusory. Similarly, if the company’s key staff/internal knowledge base been depleted, there may be potential for problems.

(3) The reasons for any continuity or discontinuity should be examined. Resistance to change or limited resources/capabilities is often behind static continuity. Purchase of certificates, addition of product lines, and downsizing, mergers, or takeovers, by contrast, frequently create discontinuity. In either event, heightened FAA interest may be appropriate.

**q. Quality System Changes (17).** Quality system changes are a regular, recurring, and expected part of the production approval holder program. Circumstances or factors, however, which might provide grounds for concern in this area include the following:

(1) In general, large companies make more frequent, proactive changes to their quality systems, while smaller companies tend to make fewer, more reactive (i.e., FAA driven) changes.

(2) The reasons behind any system changes are critical. Process improvements or enhancements are often positive, provided they’re not motivated primarily by cost cutting and CFR compliance is maintained. Changes based on FAA recommendations or reported noncompliances are likewise to be encouraged. Changes initiated in pursuit of ISO-9000/9001 certification may warrant concern in light of CFR compatibility issues. Wholesale changes instituted by a new quality manager may trigger subsequent problems.

(3) The overall nature and magnitude of changes to the system should be considered. Minor, administrative changes are probably not an issue, but major, substantive changes, e.g., transitioning to TQM, SPC, etc., may give rise to potential quality system issues. If the FAA has not fully reviewed these changes, additional concern is probably warranted.

(4) If transitioning to team approach (TQM), look for characteristics of a good program: implementation plan, not rushing into it; thorough training program for affected staff; interim review and oversight of process during transition period; final inspection retained, with a unique stamp; and no diminution of “quality focus/mindset” once new methods are in place.

**r. Engineering/Design Changes (18).** Engineering or design changes are likewise not uncommon or necessarily problematic; why they’re initiated and how they’re handled is the key. Look at the following criteria with respect to this indicator. Discussion of specific points with the ACO may also be beneficial.

**APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

(1) The strength and adequacy of the design data control system is paramount. All design changes should be well described and fully documented, in a timely and consistent manner. If they're not, be concerned. Look for positive characteristics such as simplicity and ease of administration. Automated systems, e.g., CAD, require qualified staff to manage them.

(2) The predominant nature of the changes is also important. Product enhancements, improvements, or customizing generally are not cause for concern. Changes made to correct problems, by contrast, may be. Customer-driven changes may reflect potential problems more frequently than self-generated ones. Major changes generally should cause greater concern than minor ones.

(3) Also consider the company/product context. Large companies building type-certificated products against newer designs will often have many design changes. Likewise, supplemental type certificates may also generate many changes. Newer, less experienced companies with many changes may raise a red flag.

**s. Increased Inspection Delegation to Suppliers (19).** Increased delegation of inspection authority to suppliers can raise potentially serious quality concerns. Key considerations in evaluating this indicator include the following:

(1) The strength and adequacy of the PAH's supplier control system is critical. The system should be well documented and stable, not subject to constant changes. How often the PAH gets out to the suppliers is also key. If the buyer doesn't visit or audit on a regular basis, that should be a red flag. If the PAH qualifies or trains its suppliers, that's often a definite plus.

(2) Look at methods/systems used by the PAH. If a dock-to-stock or just-in-time delivery program has been implemented, the potential for problems may be greater. Damage and content inspection alone, as opposed to receiving inspections or source sampling, can also be cause for concern. Delegation of testing is also a potential red flag.

(3) The suppliers themselves should have a quality system in place, either the buyer's or their own, with written procedures. There should also be documentation that procedures are followed. Absent these conditions, heightened concern is warranted.

**t. Increased Use of Foreign Suppliers (20).** Substantial growth in the number of foreign suppliers has raised a variety of issues and concerns. In assessing this indicator, the following considerations should be paramount:

(1) The extent of control and oversight exercised by the approval holder is critical. Use of dock-to-stock or just-in-time delivery methods with foreign suppliers may be cause for concern. Infrequent visits to foreign suppliers by the PAH should also raise a red flag.

(2) What the suppliers are doing or making is also important in assessing potential impact. If it's assembly only, there may be less cause for concern. If, on the other hand, they're producing major

### **APPENDIX 3. RESOURCE TARGETING INDICATOR ASSESSMENT CRITERIA (CONT'D)**

components or subsystems, or entire end products, the potential for quality issues is much greater. The priority or criticality of what they're producing is also of obvious importance.

(3) Look at the approval holder's rationale for using foreign suppliers. If it's primarily cost cutting, or the result of an offset contract stipulation, there may be a basis for concern. On the other hand, joint ventures or agreements to gain access to specialized expertise or technology may be less problematic.

(4) The impact of any bilateral agreement should also be considered. If an agreement is in place, the civil aviation authority of the supplier's country conducts appropriate surveillance, and the information is shared with FAA, this may offset other concerns. If no agreement is in place, lack of 100 percent incoming inspection by the PAH should be cause for concern.

**u. New Design in Production (21).** The introduction of a new design into the production system usually proceeds without major difficulty. Consider the following in assessing this indicator. Discussion of specific points with the ACO may also be beneficial.

(1) In most cases, new designs represent an evolution or iteration of what companies have already been building. Seldom is the change revolutionary or a major technological leap forward.

(2) The company's experience with related product lines is important. If the new design is a major departure from what they've done before, and the end item is really "new" to the company, then heightened concern is prudent. If, on the other hand, it's simply the latest version of something they've been building, there's likely to be little impact.

(3) The degree of change or adaptation required in the existing production system is perhaps most critical. Some new designs require no or minimal changes, while others involve major alterations or essentially new process(es). Either of these is potentially less problematic than one that requires many small, specialized, intricate, or easily missed changes.

(4) The origin of the new design may be a factor as well. Buying the design/approval, as opposed to developing an original in-house, in some cases may create transition or integration issues. Acquiring a new design through a merger or takeover likewise may create potential safety concerns.

## APPENDIX 4. CATEGORY PARTS LIST

**1. PURPOSE.** This appendix describes the Category Parts List (CPL) used to determine the unit criticality for resource targeting.

**2. CATEGORY PARTS LIST.** The CPL contains a list of assemblies and part(s) thereof that have been assigned a category rating of 1 or 2. To receive a category rating of 1, an assembly or part thereof must be one whose failure could prevent continued safe flight and landing, and resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations. To receive a category rating of 2, an assembly or part thereof must be one whose failure would not prevent continued safe flight and landing, but whose resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.

**a.** If an assembly or part thereof is listed on the CPL, the PI will use its designated category rating to determine the unit criticality on Form 8100-9.

**b.** If an assembly or part thereof is not listed on the CPL, it will be considered as category 3. The PI will use this category rating to determine the unit criticality on Form 8100-9.

**3. STRUCTURE OF THE CPL.** Refer to figure 1 below. The CPL is divided into five major areas: structural assemblies, structural elements, hydraulic pneumatic components, propulsion system components, and systems and equipment. Each of these areas is further identified by the applicable Code of Federal Regulations (CFR) part. Each part listed is followed by a number, or numbers, in parentheses. This number identifies the applicable CFR part and the designated category. For example, under "Structural Assemblies," "Fuselage" is followed by "23-1" and "25-1." This indicates that CFR parts 23 and 25 are applicable, and that the fuselage is a category 1 in both instances.

**4. CPL REVISION PROCESS.** A request to add a category 1 or 2 assembly or part thereof to the CPL, to change the category of an existing assembly or part thereof on the CPL, or to remove an existing assembly or part thereof from the CPL, may be generated from any source (e.g., PI, PAH, ACO, etc.). Use the following procedure to revise the CPL (see also figure 2):

**NOTE: A request to change the category of an existing CPL assembly or part thereof may be justified based on a specific application. For example, a windshield may appear on the CPL as category 1 for a part 23 aircraft. Based on the application, e.g, unpressurized vs. pressurized, a request to change the category for a specific part 23 aircraft may be warranted if the category rating of 1 is not appropriate.**

**a.** Prepare a Part Categorization memo and include the following as a minimum (see sample memos in figures 3, 4, and 5):

- (1) Identify and fully describe the applicable assembly or part thereof.
- (2) Identify the applicable 14 CFR (i.e., part 23, 25, 27, 29, 31, 33, or 35).

**FIGURE 1. SAMPLE CATEGORY PARTS LIST**

Revision New dated 12/3/00									
AIRCRAFT CERTIFICATION SERVICE CATEGORY PARTS LIST									
Structural Assemblies	CFR part	Structural Elements	CFR part	Hydraulic Pneumatic Components	CFR part	Propulsion System Components	CFR part	Systems and Equipment	CFR part
<b>Fuselage</b> (23-1), (25-1)	23, 25	<b>Fuselage Structural Elements</b> Pressure Bulkheads (23-1), (25-1) Keel Beam (25-1) Longeron/Stringer (25-2) Floor Beam (25-2) Plates/Skins (25-2) Fuselage to Wing Attach Fittings (25-1) Stabilizer to Fuselage Attach Fittings (25-1) Gear to Fuselage attach Fittings (25-1) Door Hinge (on Fuselage) (25-1) Fuselage Panels (23-1), (25-1)	23, 25	Hydraulic Main Pump (23-1), (25-2), (27-1), (29-1) Main Accumulator (25-2) Main Reservoir (25-2) Auxiliary Pump (25-2)	23, 25, 27, 29	Software Thrust (EEC) (23-1), (25-1)	23, 25	<b>Electrical Power System</b> Alternator/Generator Drive System (25-2) AC Generator-Alternator (25-2) AC Inverter (25-2) Phase Adapter (25-2) AC Regulator (25-2) <b>Fire Protection</b> Smoke Detection (25-2), (27-2), (29-2) Fire Detection (25-2), (27-2), (29-2) Overheat Detection (25-2), (27-2), (29-2) Extinguishing System (25-2), (27-2), (29-2) Fire Bottle-Fixed (25-2), (27-2), (29-2)	25, 27, 29
<b>Flight Control Surfaces</b> Ailerons (23-1), (25-1) Rudder (23-1), (25-1) TE Flaps (23-1), (25-2) LE Devices (25-2) Elevator (23-1), (25-1) Spoilers (25-2)	23, 25	<b>Flight Control Structural Elements</b> Aileron Tabs (25-2) Jackscrew (23-1), (25-1) Bellcranks (23-1), (25-1) Flight Control Cables (23-1), (25-1)	23, 25	Flight Control Servo Actuators (25-2), (27-1), (29-1) Flap Actuator (25-2) Rudder Actuator (25-2) Stabilizer Actuator (25-2)	25, 27, 29	Thrust Reversers (23-1), (25-2) Auxiliary Power Units (23-1) FADEC (23-1)	23, 25	<b>Fuel System</b> Boost Pumps (23-1), (25-2), (27-2), (29-2) Transfer Valves (23-1), (25-2) Fuel S.O.V. (23-1), (25-1) Digital Fuel Flow System (25-2) Fuel Dump (25-2) Fuel Quantity Indicator (25-2), (27-2), (29-2) Fuel Flow Indicating (27-2), (29-2) Fuel Pressure Indicating (27-2), (29-2) Fuel Pump (25-2), (27-1), (29-1) <b>Crew Oxygen System</b> (27-2), (29-2) <b>Indicating System</b> Warning, Caution, and Advisory Lights (27-2), (29-2), Main Rotor Indicating System (27-2), (29-2) Engine Power (27-2), (29-2) Engine Temperature (27-2), (29-2)	23, 25, 27, 29

(3) Describe the reason for adding the assembly or part thereof, for changing the category of an existing assembly or part thereof, or for removing an existing assembly or part thereof.

(4) Provide all applicable supporting data. This may include service difficulty information, airworthiness directives, or any other data to support the request.

(5) Identify where on the CPL a new assembly or part thereof should be added. Omit this data for a change or removal request.

(6) When requesting a change to the category of an existing assembly or part thereof, or requesting removal of an existing assembly or part thereof, include its current category. Omit this data for an add request.

b. The MIDO/CMO manager reviews the memo to verify that it contains the minimum required information and coordinates with the requester, if necessary. The MIDO/CMO will then send the Part Categorization memo to its respective MIO manager.

c. The MIO manager logs the request and, if the part is assigned to another 14 CFR part directorate, forwards the memo to the 14 CFR part MIO manager. The 14 CFR part MIO managers are as follows:

- (1) Parts 23 and 31: ACE-180.
- (2) Part 25: ANM-108.
- (3) Parts 27 and 29: ASW-180
- (4) Parts 33 and 35: ANE-180

**d.** The 14 CFR part MIO manager forwards the memo to the Aircraft Certification Specialist or MIO staff specialist for investigation and coordination. The Aircraft Certification Specialist or MIO staff specialist completes the "Coordination" section of the Part Categorization memo as follows:

- (1) Indicates whether the action taken is to "Accept" or "Deny" the request.
- (2) If the action is to accept either a request to add an assembly or part thereof or to change an existing category, assigns the appropriate category to the assembly or part thereof.
- (3) If the action is to accept a request to remove an assembly or part thereof from the CPL, goes to paragraph e.
- (4) If the action is to deny the request, indicates the reason it was denied.

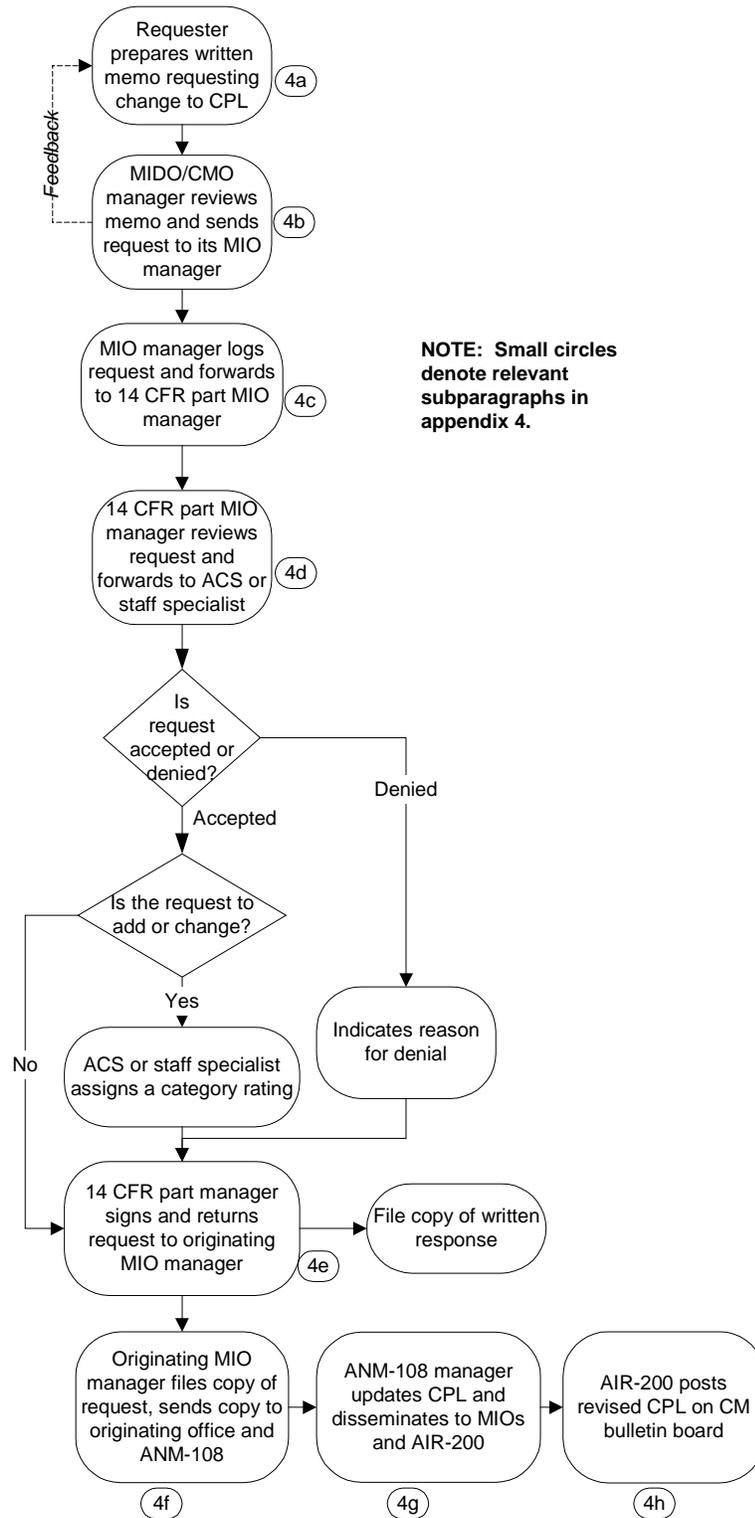
**e.** On completion of the actions in paragraph 4d above, the Aircraft Certification Specialist or MIO staff specialist forwards the memo to the 14 CFR part MIO manager . The 14 CFR part MIO manager will sign the completed memo and forward it to the originating MIO manager. The 14 CFR part MIO manager will retain a copy of the memo as a reference for future request reviews.

**f.** The originating MIO manager will file a copy of the memo, notify the originating MIDO/CMO, and send a copy to the manager, ANM-108.

**g.** The ANM-108 MIO manager updates the CPL and disseminates the revised CPL to the other MIO managers and AIR-200 at the end of each quarter.

**h.** AIR-200 will post the updated CPL on the CM bulletin board.

**FIGURE 2. CPL REVISION PROCESS FLOWCHART**



**FIGURE 3. SAMPLE PART CATEGORIZATION MEMO  
FOR REQUESTING AN ADDITION TO THE CPL**

	<h1>Memorandum</h1>
U.S. Department of Transportation <b>Federal Aviation Administration</b>	
<hr/>	
Subject: <b>ACTION:</b> Part Categorization	Date: March 6, 2002
From: Manager, ANE-MIDO-42 VIA Manager, ANE-180 <b>DP</b>	Reply to Attn. of:
To: Manager, ANM-108	
We request to add the following part to the Category Parts List (CPL).	
<ol style="list-style-type: none"> <li>1. Part name: Fuel cell door.</li> <li>2. 14 CFR part affected: 25.</li> <li>3. Reason for adding part to CPL: Paint contamination on fuel cell door for Boeing 737-300 led to issuance of an Airworthiness Directive (AD).</li> <li>4. The following applicable supporting data is attached: A copy of AD #2001-15-01.</li> <li>5. Placement of part on CPL: Systems and Equipment, Fuel System.</li> </ol>	
<b>Duke E. Season</b>	
Duke E. Season	
Attachment	
<hr/>	
<b>COORDINATION</b>	
Action on request: Accept	
Category assigned: 2	
<b>C P. Ells</b>	
C.P. Ells	Date: April 3, 2002

**FIGURE 4. SAMPLE PART CATEGORIZATION MEMO  
FOR REQUESTING A CHANGE TO THE CPL**

 <p>U.S. Department of Transportation <b>Federal Aviation Administration</b></p>	<h1>Memorandum</h1>
<hr/>	
Subject: <b>ACTION:</b> Part Categorization	Date: March 26, 2002
From: Manager, Seattle-MIDO VIA Manager, ANM-108 <b>OPE</b>	Reply to Attn. of:
To: Manager, ACE-180	
We request to change the existing category on the Category Parts List (CPL) for the following part.	
<ol style="list-style-type: none"><li>1. Part name: Flight compartment window.</li><li>2. 14 CFR part affected: 23.</li><li>3. Reason for changing existing category: Category 1 is not appropriate for a Cessna 150 aircraft.</li><li>4. The following applicable supporting data is attached: Cessna 150 performance data.</li><li>5. Placement of part on CPL: Systems and Equipment, Window-Windshield System.</li><li>6. Current category: 1.</li></ol>	
<b>Dewey Revu</b>	
Dewey Revu	
Attachment	
<hr/> <b>COORDINATION</b>	
Action on request: Accept	
Category assigned: 2	
<b>V. Small</b>	Date: April 23, 2002
V. Small	

**FIGURE 5. SAMPLE PART CATEGORIZATION MEMO FOR  
REQUESTING REMOVAL OF AN ASSEMBLY/PART FROM THE CPL**

 U.S. Department of Transportation <b>Federal Aviation Administration</b>	<h1 style="margin: 0;">Memorandum</h1>						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; vertical-align: top;"> <b>Subject:</b> <u><b>ACTION:</b></u> Part Categorization             </td> <td style="width: 40%; vertical-align: top; text-align: right;"> <b>Date:</b> April 26, 2002             </td> </tr> <tr> <td style="vertical-align: top;"> <b>From:</b> Manager, ASW MIDO-42                  VIA Manager, ASW-180 <b>JS</b> </td> <td style="vertical-align: top; text-align: right;"> <b>Reply to Attn. of:</b> </td> </tr> <tr> <td colspan="2" style="vertical-align: top;"> <b>To:</b> Manager, ANM-108             </td> </tr> </table>		<b>Subject:</b> <u><b>ACTION:</b></u> Part Categorization	<b>Date:</b> April 26, 2002	<b>From:</b> Manager, ASW MIDO-42 VIA Manager, ASW-180 <b>JS</b>	<b>Reply to Attn. of:</b>	<b>To:</b> Manager, ANM-108	
<b>Subject:</b> <u><b>ACTION:</b></u> Part Categorization	<b>Date:</b> April 26, 2002						
<b>From:</b> Manager, ASW MIDO-42 VIA Manager, ASW-180 <b>JS</b>	<b>Reply to Attn. of:</b>						
<b>To:</b> Manager, ANM-108							
<p>We request to remove the following part from the Category Parts List (CPL).</p> <ol style="list-style-type: none"> <li>1. Part name: Brake deboost valve.</li> <li>2. 14 CFR part affected: 25.</li> <li>3. Reason for removing part: The only PAH manufacturing brake deboost valves is no longer in business.</li> <li>4. The following applicable supporting data is attached: Letter from ASW MIDO-42 canceling project. Cover letter from PAH containing the returned PMA letter.</li> <li>5. Placement of part on CPL: Systems and Equipment, Brake System and Assembly Components.</li> <li>6. Current category: 2.</li> </ol> <p><i>I. C. Rotors</i></p> <p>I. C. Rotors</p> <p>Attachment</p>							
<b>COORDINATION</b>							
<p>Action on request: Deny</p> <p>The request to remove the part from the CPL has been denied because there are still operators of Model 707 aircraft that would need replacement deboost valves. As a result, other PAH's may apply for PMA to manufacture brake deboost valves.</p>							
<p><b>C P. Ells</b></p> <p>C. P. Ells</p>	<p><b>Date:</b> May 23, 2002</p>						



## APPENDIX 5. RESOURCE TARGETING REPORTS

**1. PURPOSE.** This appendix explains the layout of the Directorate Report and the Office Report.

**2. TYPES OF REPORTS.** Two types of reports will be printed and distributed: the Directorate Report and the Office Report. The Directorate Report will list all facilities assessed within the directorate. An Office Report will be prepared for each MIDO, and will list the facilities assessed within each MIDO. Each type of report is formatted as follows:

**a. Facility Name:** Self-explanatory.

**b. Principal Inspector:** The name of the PI who completed the form.

**c. System Strength:** A rating of “Optimal,” “Adequate,” or “Marginal” will be indicated. System strength encompasses factors over which a facility generally has more direct control or influence, i.e., the stability of the organization, its performance history, and the various elements and influences that drive its production dynamics. A rating of “Optimal” indicates that the strength of the system in place has been assessed as having little potential impact on the integrity of FAA-approved design and product quality. A rating of “Adequate” indicates that the strength of the system in place has been assessed as having an average potential impact on the integrity of FAA-approved design and product quality. A rating of “Marginal” indicates that the strength of the system in place has been assessed as having a substantial potential impact on the integrity of FAA-approved design and product quality.

**d. Inherent Risk:** A rating of “Substantial,” “Moderate,” or “Minimal” will be indicated. Inherent risk encompasses factors that are generally associated with the type of business the facility has chosen to be in, and remain constant unless the facility changes its business. These factors are the level of technology with which the facility is working, and the criticality of the end unit or units of production. A rating of “Substantial” indicates that a facility’s level of technology has been assessed as having a substantial potential impact on the integrity of FAA-approved design and product quality, and the unit criticality is high. A rating of “Moderate” indicates that a facility’s level of technology has been assessed as having a moderate potential impact on the integrity of FAA-approved design and product quality, and the unit criticality is moderate. A rating of “Minimal” indicates that a facility’s level of technology has been assessed as having little potential impact on the integrity of FAA-approved design and product quality, and the unit criticality is low.

**e. Resource Targeting Group Assigned:** Self-explanatory.



## APPENDIX 6. RESOURCE TARGETING MODEL VALIDATION PLAN

**1. PURPOSE.** This appendix explains the structure and application of the resource targeting model validation plan. The objective of the plan is to ensure that the model consistently and accurately identifies those PAH's and associate facilities having the greatest potential to produce nonconforming products or parts thereof. It also defines a basis for continually refining and modifying the model as required to achieve this objective. The plan utilizes several validations to accomplish these objectives.

**2. RESOURCE TARGETING VALIDATIONS.** Each validation listed below identifies the data source(s) required for each validation element, the individuals or groups responsible for validating the element, and a brief description of the process for each validation element.

**a. Validation of Ratings for the Resource Targeting Indicators and Unit Criticality.** This validation is conducted as an integral part of the annual assessment of facilities described in chapter 3, section 2 of this order. It includes elements built directly into the core structure of the model and its basic application processes. As such, this validation provides a real-time validity check on the ratings for the resource targeting indicators and unit criticality, and on the initial resource targeting group assignments generated by the model. This validation not only provides managerial oversight for the process but also allows for a different perspective in determining the final ratings for resource targeting indicators and unit criticality.

(1) **Data Source(s):** Form(s) 8100-9.

(2) **Parties Responsible for Validation:** Facility PI and MIDO/CMO manager.

(3) **Description:** Chapter 3, section 2 of this order requires that the PI discuss all facility assessments documented on Form 8100-9 with the MIDO/CMO manager prior to finalizing the ratings for the 21 resource targeting indicators and unit criticality. In so doing, the MIDO/CMO manager is provided an opportunity to help ensure consistency between and among PI's in the application of the model, and to provide a second opinion for complex or ambiguous cases.

(4) **Expected Outcome:** This validation provides a first level, normative validity check of the assessments entered on Form 8100-9.

**b. Validation of the Continued Relevance of the Resource Targeting Model's Impact Indicators.** This validation is conducted annually following the completion of all scheduled ongoing CM responsibilities for the fiscal year. Since this validation is data-driven, and aimed at the adequacy of the resource targeting model elements, detailed planning for analysis and reporting will be required. Performance of this validation is a primary responsibility within the scope of the continued improvement program described in chapter 1 of this order.

(1) **Data source(s):** Appendix 2 of this order discusses how the resource targeting indicator ratings are entered electronically to develop a resource targeting group. The individual resource targeting indicator ratings are stored in a database table for eventual conversion into a resource targeting group. This database table is the data source for this validation.

## **APPENDIX 6. RESOURCE TARGETING MODEL VALIDATION PLAN (CONT'D)**

**(2) Parties Responsible for Validation:** AIR-200.

**(3) Description:** AIR-200 will collect the relevant data, design and perform the required analyses, and submit a report for deliberation under the continued improvement program.

**(4) Expected Outcome:** This validation seeks to identify the model's resource targeting indicators that do not significantly contribute to the identification of the resource targeting group assignment. The database table will be analyzed to identify resource targeting indicators that are predominantly rated as "c" (not applicable), and to determine whether or not such indicators should continue to be used in the model.

**c. Validation of the Resource Targeting Model's Ability to Reflect PI Experience and Judgment.** This validation is conducted every three years. The individual impact indicators and the relative weights assigned to each were based on interviews conducted with PI's and engineers and reflect their combined knowledge, experience, and judgment. It is necessary to periodically revalidate this basis in order to ensure that the model continues to reflect this experience and judgment. Since this validation is data-driven, and aimed at the adequacy of the resource targeting model elements, detailed planning for analysis and reporting will be required. Performance of this validation is a primary responsibility within the scope of the continued improvement program described in chapter 1 of this order.

**(1) Data source(s):** The resource targeting Office Reports are the primary data sources for this validation. In addition, each directorate will use a resource targeting questionnaire to assess the validity of the resource targeting groups assigned.

**(2) Parties Responsible for Validation:** Directorates.

**(3) Description:** Each directorate will collect the relevant data, design and perform the required analyses, and submit a report for deliberation under the continuous improvement program.

**(4) Expected Outcome:** This validation seeks to determine the degree to which the rating plan for the model's impact indicators reflects the experience and judgment of the PI's. Once every three years, following assignment of the resource targeting groups, each directorate will provide a questionnaire to its PI's to assess the validity of the assignments. The questionnaire will request PI's and their managers to mutually review the resource targeting Office Reports, identify any resource targeting group assignment they disagree with, and provide written justification for their opinion. The differences identified with the resource targeting groups assigned and the written justifications will be analyzed to detect any patterns or trends in the data attributable to inadequacies in the model. A small number of justifiable changes to the resource targeting groups is a strong nominal indicator of model validity; i.e., if a large majority of the model's resource targeting group assignments are accepted, then the knowledge and experience of the directorate staff is adequately reflected in the model.

**APPENDIX 7. PREPARATION INSTRUCTIONS FOR  
FAA FORM 8100-6, NONCOMPLIANCE RECORD**

**1. PURPOSE.** This appendix provides instructions for completing Form 8100-6 or electronic equivalent for all audit and evaluation activities.

**2. SPECIFIC GUIDANCE.** Figure 1 shows Form 8100-6 with numbered blocks. The form shall be prepared as a stand-alone document. **WRITE THE NONCOMPLIANCE AGAINST THE RESPONSIBLE PAH or ASSOCIATE FACILITY.** Prepare the form by inserting in:

- a. Block 1.** When the activity is an ACSEP evaluation, enter the ACSEP Number/Report Number. For all other activity, enter "N/A."
- b. Block 2.** The project number(s) applicable to the production approval(s) activity.
- c. Block 3.** A check mark in the appropriate box to indicate the type of activity that was conducted.
- d. Block 4.** The following information, as appropriate.

**(1) ACSEP Evaluation.** Under "System Element Evaluated," enter "N/A." Under "Evaluation Criteria Number," enter the evaluation criteria number from Order 8100.7, appendix 14 or 15. For new criteria, insert the system element number assigned by Order 8100.7, appendix 16 or 17. Do NOT insert more than one number.

**NOTE: More than one noncompliance may be recorded for an evaluation criteria number. When an evaluation criteria contains several statements of condition, it is possible to find noncompliances to some or all of those conditions. When multiple statements of conditions under one criteria are affected, a Form 8100-6 or electronic equivalent should be completed for each condition. When noncompliances are recorded for a common condition, only one Form 8100-6 or electronic equivalent should be completed.**

**(2) PI or DO Audit.** Under "System Element Evaluated," enter the name of the system element in Order 8100.7 to which the noncompliance is relevant. Under "Evaluation Criteria Number," enter "N/A."

**(3) Supplier Control or Product Audit.** Under "System Element Evaluated," enter "N/A". Under "Evaluation Criteria Number," enter "N/A."

**e. Block 5.** The reference controlling document. The controlling document is defined as the FAA-approved or accepted data, purchase order/quality requirements from a PAH or associate facility, or internal procedures used in producing the product or part(s) thereof. Enter the complete reference number, or, as a minimum, the document title and effective date. (Examples: ABC Company Quality Manual dated March 5, 1976; XYZ QOI 32-6 dated June 23, 1990; BCD Drawing No. 9825333-2 dated May 20, 1989.) Insert a check in the "Yes" or "No" block, as appropriate, to indicate whether the controlling document is FAA-approved.

**APPENDIX 7. PREPARATION INSTRUCTIONS FOR  
FAA FORM 8100-6, NONCOMPLIANCE RECORD (CONT'D)**

**NOTE: If an APIS or PMA holder's quality manual is submitted to the FAA as evidence of compliance to part 21, it is not considered to be FAA-approved data. The "NO" block should always be checked for these documents. Purchase orders and/or quality requirements flowed down to a supplier by a PAH or associate facility are generally not considered to be FAA-approved data. In some cases, quality requirements for use at a supplier facility are specifically approved by the FAA prior to use. Determine the approval status of any referenced PAH supplier quality requirement before checking the "YES" or "NO" block.**

**f. Block 6.** The applicable CFR part or section that establishes the responsibility of the PAH (i.e., § 21.165 or § 21.607). For an APIS or PMA facility, insert the specific paragraph reference from §§ 21.125(a)(1) through (a)(10) or § 21.303(a), (h), (h)(1) through (h)(9), j, or k, or other applicable CFR (e.g., § 45.15) to which the observed condition is directly traceable. If the observed condition is not directly traceable to one of these requirements, leave the block blank. For ACSEP evaluations only, insert the applicable CFR part or section that establishes the responsibility of any delegated facility evaluated (i.e., § 21.245, § 21.445, or SFAR NO. 36, § 6(a)(2)). Insert the applicable CFR reference for each approval type affected.

**NOTE: When a facility holds multiple production approvals, and a noncompliance is found that applies to more than one of those approvals, use the highest level quality requirement; for purposes of this order, the quality levels, from highest to lowest, are PC, TSO authorization, APIS, and PMA.**

**g. Block 7.** A check mark in the appropriate box to indicate the type of noncompliance found. A noncompliance is indicated when it is discovered that a PAH's or associate facility's operating practices are inconsistent with the CFR, FAA-approved data, or internal procedures. Internal procedures refer to a PAH's or associate facility's procedures that are not included as part of the FAA-approved data. A supplier's operating practices found to be inconsistent with a PAH's or associate facility's purchase order requirements are considered to be noncompliances by the PAH or associate facility. A noncompliance is classified into one of the following four categories:

**(1) Safety-Related Noncompliance:** a noncompliance to the CFR, FAA-approved data, the facility's internal procedures, or purchase order requirements that compromises immediate continued operational safety and requires immediate corrective action. This includes any noncompliance to § 21.3, including an isolated noncompliance. For an ACSEP evaluation, record a safety-related noncompliance only when the responsible PI determines that immediate action is required.

**NOTE: The PI should formally submit any safety-related noncompliance to the responsible PAH or associate facility in writing within 72 hours of discovery. If the noncompliance affects delivered products or services, the PI will secure from the responsible PAH or associate facility a list of the end users affected and immediately notify the cognizant ACO, MIO, MIDO, or CMO.**

**APPENDIX 7. PREPARATION INSTRUCTIONS FOR  
FAA FORM 8100-6, NONCOMPLIANCE RECORD (CONT'D)**

**(2) Systemic Noncompliance:** noncompliance to the CFR, FAA-approved data, the facility's internal procedures, or purchase order requirements that is not safety-related and is systemic in nature, i.e., is pervasive, repeatable, and represents a breakdown in the quality control or inspection system.

**(3) Isolated Noncompliance:** a noncompliance to the CFR, FAA-approved data, the facility's internal procedures, or purchase order requirements that is not safety-related and is of an isolated or nonsystemic nature, i.e., is not pervasive or repeatable, and does not represent a breakdown in the quality control or inspection system. However, an isolated noncompliance with § 21.3 is considered a safety-related noncompliance when it meets the definition in paragraph 2g(1) of this appendix.

**(4) Certification-Related Noncompliance:** a noncompliance to the CFR that is discovered in FAA-approved data and that is not safety-related.

**NOTE: Number noncompliances sequentially beginning with the number "1."**

**h. Block 8.** The condition required by the controlling document, applicable supporting documents, or the applicable CFR part or section. Use the same wording as the controlling document, the applicable supporting document, or the applicable CFR part or section, whenever possible. List all documents that demonstrate the link back to the controlling document or applicable CFR. Do not attach copies of CFR references.

**i. Block 9.** A detailed explanation of the encountered condition.

- (1)** Explain why the encountered condition differs from the required condition.
- (2)** Identify where the encountered condition was found.
- (3)** Identify the total number of items checked and the total number of items found to be in noncompliance.
- (4)** List the items found to be in noncompliance, using identification numbers or other specific identifiers whenever possible.
- (5)** Record any evidence the facility provided during the evaluation to show that corrective action was taken or initiated.
- (6)** When the encountered condition finds FAA-approved data to be in noncompliance with an applicable CFR part or section, include a note that further investigation by the ACO, MIO, or MIDO may be required.
- (7)** List all attachments obtained that describe the encountered condition.

**j. Block 10.** A check in the box to indicate that the encountered condition has been discussed with the facility escort, as a minimum.

**APPENDIX 7. PREPARATION INSTRUCTIONS FOR  
FAA FORM 8100-6, NONCOMPLIANCE RECORD (CONT'D)**

**k. Block 11.** The typed or printed name and signature of the person recording the noncompliance.

**NOTE: Evaluators-in-training and support service personnel participating in ACSEP evaluations may sign this block. However, the block must be countersigned by an appointed ACSEP evaluator.**

**l. Block 12.** The routing office symbol of the recorder.

**m. Block 13.** The date the form is completed.

**APPENDIX 7. PREPARATION INSTRUCTIONS FOR  
FAA FORM 8100-6, NONCOMPLIANCE RECORD (CONT'D)**

**FIGURE 1. SAMPLE FAA FORM 8100-6**

This form is a representation of the original form and not to be construed as the original form.

 U.S. Department of Transportation <b>Federal Aviation Administration</b>	<b>Noncompliance Record</b>		ACSEP No./ Report No. (1) N/A
			Project No. (2) PT900NE
Type of Activity: <input type="checkbox"/> DO Audit <input type="checkbox"/> PI Evaluation <input type="checkbox"/> ACSEP <input type="checkbox"/> Supplier Control Audit <input checked="" type="checkbox"/> Product Audit <input type="checkbox"/> Other (3)			
System Element Evaluated: (4) N/A	Controlling Document: (5) RC Purchase Order #94 of 11/23/1997		Applicable CFR Section: (6) 21.607
Evaluation Criteria Number: N/A	FAA-approved data? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Type Of Noncompliance: Safety-Related <input type="checkbox"/> Systemic <input checked="" type="checkbox"/> Isolated <input type="checkbox"/> Certification-Related <input type="checkbox"/> No. 1 (7)			
<b>Required Condition: (8)</b>  RC Purchase Order (PO) #94 for rotor support couplings states: "J&J Machining Co. shall comply with RC Quality Manual, Section 4, and purchase raw materials exclusively from YOYO International Material Broker. Terms of purchase will include a request for a metallurgical lab report with each shipment. These reports will be retained by J&J Machining Co. for a minimum of 2 years."  J&J Machining Co. Quality Manual, paragraph 12.4(c), states: "All raw material purchase orders shall include a statement requiring suppliers to furnish a metallurgical lab report with each shipment. The reports will be retained by J&J Machining Co. metallurgical lab in accordance with paragraph 23.6."			
<b>Encountered Condition: (9)</b> (10) <input checked="" type="checkbox"/> Discussed with Facility Ten J&J Machining Co. purchase orders for raw materials to be used for the manufacture of rotor support couplings under RC PO #94 were reviewed (J3-122; J3-114; J3-221; J3-98; J3-301; J3-110; J3-245; J3-15; J3-278; J3-184). All ten POs were issued to YOYO International Material Broker as required by RC PO #94, and all included the statement for furnishing a metallurgical lab report with each shipment. All raw material shipments were completed between January 1997 and March 1998. The J&J Machining Co. metallurgical lab files were reviewed to determine whether metallurgical lab reports had been furnished with each shipment required by the ten POs. Only one metallurgical lab report was found to be on file (shipment under PO #J3-122).			
Attachments:  RC Purchase Order #94  RC Quality Manual, Section 4  J&J Machining Co. Quality Manual, paragraphs 12.4(c) and 23.6  J&J Machining Co. PO # J3-122; J3-114; J3-221; J3-98; J3-301; J3-110; J3-245; J3-15; J3-278; J3-184			
Typed Name and Signature of Recorder: (11) Julia R. Gotta <i>Julia R. Gotta</i>		Office Symbol (12) ANE MIDO 42	Date (13) 5/1/01
FAA Form 8100-6 (2-02) <span style="float: right;">FOR OFFICIAL USE ONLY (when filled in) Public availability to be determined under 5 U.S.C. 552</span>			



**APPENDIX 8. PREPARATION INSTRUCTIONS FOR FAA FORM 8120-14,  
PRODUCTION APPROVAL/CERTIFICATE MANAGEMENT ACTIVITY REPORT**

**1. PURPOSE.** This appendix provides instructions for completing Form 8120-14 or electronic equivalent. This form is used to document all activity except ACSEP evaluations at PAH's, associate facilities, and their suppliers. When combined with the respective Form(s) 8100-6, a complete report of the activity conducted is available for subsequent planning.

**2. SPECIFIC GUIDANCE.** Figure 1 shows Form 8120-14 with numbered blocks. Prepare the form by inserting in:

- a. Block 1.** The name and address of the PAH or associate facility as recorded on the production approval.
- b. Block 2.** The project number(s) applicable to the production approval(s).
- c. Block 3.** The name and address of the supplier as recorded on the PAH's documentation.
- d. Block 4.** A check mark in the appropriate box(es) to indicate the type of production approval.
- e. Block 5.** A check mark in the appropriate box to indicate the type of activity that was conducted.
- f. Block 6.** The starting date and the ending date of the activity that was conducted.
- g. Block 7.** The title, revision number, and date of any quality manual submitted to the FAA by the PAH or associate facility. The applicable CFR may also be entered. If no quality data is submitted, enter the applicable CFR. For a supplier, enter the applicable purchase order or quality requirements from the PAH or associate facility.
- h. Block 8.** The date that applicable quality data submitted by a PAH or associate facility is approved by the FAA. If quality data is not subject to FAA approval, enter "N/A."
- i. Block 9.** An "X" in the column next to the system element evaluated when the result of the activity is satisfactory. If the system element is not applicable at a facility, enter "N/A." If the system element was not evaluated, enter "N/E."
- j. Block 10.** The respective Form 8100-6 noncompliance numbers for the system element evaluated, when the result of the activity is unsatisfactory.
- k. Block 11.** The nomenclature and part number(s) of the product or part(s) thereof audited.
- l. Block 12.** An "X" in the column next to the product or part(s) thereof audited when the result of the activity is satisfactory.
- m. Block 13.** The respective Form 8100-6 noncompliance numbers for the product or part(s) thereof audited, when the result of the activity is unsatisfactory.

**APPENDIX 8. PREPARATION INSTRUCTIONS FOR FAA FORM 8120-14,  
PRODUCTION APPROVAL/CERTIFICATE MANAGEMENT ACTIVITY REPORT  
(CONT'D)**

- n. Block 14.** The specific purchase order or quality requirement audited.
- o. Block 15.** An "X" in the column next to the specific purchase order or quality requirement audited when the result of the activity is satisfactory.
- p. Block 16.** The respective Form 8100-6 noncompliance numbers for the specific purchase order or quality requirements audited, when the result of the activity is unsatisfactory.
- q. Block 17.** Enter the names, titles, and office symbols of all FAA personnel who participated in the activity.
- r. Block 18.** The typed or printed name and signature of the person conducting the audit or PI evaluation. In most cases, this will be the PI responsible for the PAH or associate facility.
- s. Block 19.** The office symbol of the person completing this form.
- t. Block 20.** The date that this form is completed.

**APPENDIX 8. PREPARATION INSTRUCTIONS FOR FAA FORM 8120-14,  
PRODUCTION APPROVAL/CERTIFICATE MANAGEMENT ACTIVITY REPORT  
(CONT'D)**

**FIGURE 1. SAMPLE FAA FORM 8120-14 (FRONT)**

This form is a representation of the original form and not to be construed as the original form.

 U.S. Department of Transportation <b>Federal Aviation Administration</b>		<b>Production Approval/ Certificate Management Activity Report</b>	
Manufacturer/Address: RC Couplings, 10001 Admiral Square, Haverhill MA 01830 (1)			Project No.: PQ1234NE (2)
Supplier/Address: N/A (3)			
Production Basis: (4) PC <input type="checkbox"/> APIS <input type="checkbox"/> TSO authorization <input type="checkbox"/> PMA <input checked="" type="checkbox"/>			
Production Approval/Certificate Management Activity: (5) DO Audit <input type="checkbox"/> PI Evaluation <input type="checkbox"/> Product Audit <input checked="" type="checkbox"/> Supplier Control Audit <input type="checkbox"/> Other <input type="checkbox"/>			
Activity Dates: From 12/1/2001 To 12/2/2002 (6)			
Quality Data – Title, Revision, Date, and/or CFR Section Involved: (7) RC Quality Manual, Rev. C, 1/27/1997			
Date of FAA Approval of Quality Data: N/A (8)			
<b>PI EVALUATION OR DO AUDIT RESULTS</b>			
<b>SYSTEM ELEMENT</b>	<b>SATISFACTORY</b> <i>"X" if applicable</i>	<b>UNSATISFACTORY</b> <i>List FAA Form 8100-6 Noncompliance No.(s)</i>	
1. Organization & Responsibility	(9)	(10)	
2. Design Data Control			
3. Software Quality Assurance			
4. Manufacturing Processes	X		
5. Special Manufacturing Processes		#1 and #2	
6. Statistical Quality Control			
7. Tool & Gauge		#3	
8. Testing			
9. Nondestructive Inspection			
10. Supplier Control			
11. Nonconforming Material			
12. Material Handling/Storage			
13. Airworthiness Determination			
14. FAA Reporting Requirements			
15. Internal Audit			
16. Global Production			
17. Manufacturer's Maintenance Facility			
<b>PRODUCT AUDIT RESULTS</b>			
<b>PRODUCT AUDITED</b> <i>(Nomenclature/Part Number)</i>	<b>SATISFACTORY</b> <i>"X" if applicable</i>	<b>UNSATISFACTORY</b> <i>List FAA Form 8100-6 Noncompliance No.(s)</i>	
Rotor support coupling, (11) P/N RC25-1000	(12)	(13)	
FAA Form 8120-14 (2-02)			
FOR OFFICIAL USE ONLY (when filled in) Public availability to be determined under 5 U.S.C. 552			



**APPENDIX 9. FORMS LISTING**

**1. PURPOSE.** This appendix lists the forms referenced in this order and their sources. The forms listed in figure 1 are available from the FAA Logistics Center, AML-1000, through normal supply channels. The forms listed in figure 2 are available in an electronic format within each directorate.

**FIGURE 1. FORMS AVAILABLE FROM FAA LOGISTICS CENTER**

<b><u>Form Number</u></b>	<b><u>Title</u></b>	<b><u>NSN</u></b>	<b><u>Unit of Issue</u></b>
FAA Form 8000-4	Air Agency Certificate	0052-00-027-1001	Sheet
FAA Form 8100-1	Conformity Inspection Record	0052-00-039-3001	Package
FAA Form 8110-12	Application for Type Certificate, Production Certificate, or Supplemental Type Certificate	0052-00-025-0001	Sheet
FAA Form 8120-3	Production Limitation Record	0052-00-025-7001	Sheet
FAA Form 8120-4	Production Certificate	0052-00-025-6001	Package

**FIGURE 2. FORMS AVAILABLE IN ELECTRONIC FORMAT**

<b><u>Form Number</u></b>	<b><u>Title</u></b>
FAA Form 8100-6	Noncompliance Record
FAA Form 8120-14	Production Approval/Certificate Management Activity Report





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 8120.2C

To: Directive Management Officer, AIR-520

*(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 (8-89)**