

3.1.1 General Principles

CASR Part
21, Subparts
F, G, K or O

The purpose of this part is to assist in assessing quality systems of applicants seeking production approvals under CASR Part 21, Subparts F, G, K or O (APIS, PC, APMA, ATSOA).

Not all the functions/elements specified in this part are necessarily applicable to every applicant's system, and the assessing officer before undertaking this assessment should ensure a good understanding of the applicant's organisation and the extent of the manufacturing work to be undertaken. All aspects of the intended manufacturing activity must be clearly and adequately specified in the applicant's quality system.

Assessment Stages

Assessment of any quality system is normally a three-stage process.

Stage 1 Quality System Assessment—Desk-top Review

Conduct a "desk top" review of the applicant's system to ensure that all the required procedures are included and adequately address the regulatory requirements.

Stage 2 Quality System Assessment—Quality System Evaluation

Evaluate the system at the manufacturing facility or facilities to ensure that the procedures have been documented, implemented and effectively control the work.

Stage 3 Quality System Assessment—Manufacturer's Corrective Action

The manufacturer rectifies any noted deficiencies and discrepancies by amending documented procedures or correcting discrepancies at the manufacturing facility or facilities.

Quality Systems Documentation

All production approval applicants are required to establish and maintain a quality system. It follows that the documented system must contain adequate procedures for the maintenance of the approved system. The documented system should identify the person who is responsible for CASA liaison, and will approve and implement quality system changes within the entity.

For APMA and APIS formal CASA approval of a proposed quality system change is necessary before the change is implemented.



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CASR 21.143, 21.144 Quality systems for PC and ATSOA applicants are required to comply with **CASR** 21.143 and 21.144. The quality system must be documented in a manual, and must include procedures for the following functions.

1. Organisation Structure, Authority and Responsibility of Appointed Persons
2. Technical Data Control
3. Manufacturing Processes
4. Special Processes
5. Non-destructive Inspection
6. Tool and Gauge Control
7. Receiving Inspection/Supplier Control
8. Inspection and Testing
9. Material Review Procedure (Except for a CASR Part 21.133(2B) PC)
10. Stores Control
11. Certification and Release
12. Service Difficulty Reporting and Control.

CASR 1998 21.123(1), 21.303(11) The requirements for an APIS and APMA quality (fabrication inspection) system must also address items (1) to (12) above. The regulations covering APIS and APMA do not contain a specific requirement for the applicant's organisational structure to be included. However, **CASR 1998** 21.123 (1)(c) and 21.303 (11) require the applicant to establish and maintain a system which ensures that each completed product or part conforms to its design and is safe for operation or installation.

Establishment of Evaluation Teams

The Project Officer shall coordinate with the Manufacturing Inspector to conduct an evaluation of an applicant's quality system. When the application is for manufacture of aircraft, the flight test personnel from Airworthiness Standards Branch are required to evaluate the relevant sections of the data and approve the production flight test schedule.

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3.2 Assessment of an Applicant's Suppliers

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3.2.1 Assessment of an Applicant's Suppliers

Preliminary and Ongoing Audits of the Supplier's Facilities

CASR Part 21 This section provides guidelines for CASA's assessment of an applicant's supplier production facility to ensure that the supplier control system implemented by the Production Approval Holder (PAH) meets the intent of **CASR Part 21**.

The PAH has initial and on-going responsibility for control of suppliers. CASA may undertake audit of the facilities.

CASR Part 21, Subparts F, G, K, and O **CASR Part 21, Subparts F, G, K, and O** require the establishment of a quality system as a prerequisite to the issue of a CASA production approval. A critical part of such a system is to establish and maintain procedures for ensuring that components and materials produced by suppliers conform to the approved design data and are in a condition for safe operation.

It is the PAH's responsibility to ensure that each completed product, part or appliance, including supplied components and materials, conforms to the approved design data and is in condition for safe operation.

When suppliers are located outside of Australian territory CASA may request assistance from the NAA of the foreign country to act on its behalf, to perform assessment (and audit) activities. Such assistance may come under the terms of formal state agreements, memorandums of agreement between the authorities, or requests for assistance on a case-by-case basis.

A PAH may utilise any supplier as long as the PAH's quality control system provides assurance that all parts or services, including engineering services, furnished by a supplier are in compliance with its production approval.

The PAH should place special emphasis on controlling those suppliers that it authorises to deliver parts/materials directly to a user/operator of the PAH's completed product. Each PAH must make available to CASA a list of its direct ship suppliers. The PAH should have objective evidence that the suppliers have been notified that their facilities are subject to CASA audit.

Emphasis is placed on the PAH's control of its suppliers, since the PAH is totally responsible for all of its supplier-furnished parts and services. CASA may evaluate the PAH's quality system implementation at selected suppliers.



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Assessment

The same procedures and criteria used to accomplish and record assessment of the PAH quality system and facilities are to be used for evaluating suppliers, even though not all elements may be applicable to individual suppliers. MIs are to exercise their judgment and experience in performing supplier assessments. These procedures and criteria are detailed in [3.3 Quality System Assessment](#).

Note: When a supplier to multiple PAHs is evaluated, it is of the utmost importance to ensure that the quality control requirements for the applicant being currently evaluated are met by the supplier.

3.3.1 Stage 1 Quality System Assessment—Desk-top Review

System Data Evaluation

This stage is a thorough evaluation of a manufacturer's data (including any referenced procedures, policies, standards, instructions, processes), which describes the quality system required for a particular production approval.

Note: All applications to CASA for production approval, conformity inspection, certificates of airworthiness or special flight permits must be signed by a legally empowered company principal or a letter of agency must accompany each application.

Data Evaluation Method

1. It is of the utmost importance that the Project Officer critically evaluates the submitted data to ensure that:
 - a. The described quality system will adequately provide for the consistent acceptance of only those products/parts that conform with the approved design data.
 - b. The manufactured products/parts are in a condition for safe operation.
2. The prime objective of all quality system data is to ensure that it describes the procedures that meet the intent of the pertinent regulations, and can be realistically implemented. Applicants must understand that penalties can apply to non-compliance with the approved system; therefore the system described must reflect 'local' operations rather than 'generic' procedures.
3. All data must be positively identified by title, revision, and date; and must be approved for use by an authorised management representative (often the Quality Manager).
4. The initial evaluation of a manufacturer's quality system data must be thorough and comprehensive. However, any subsequent evaluation of a particular manufacturer's data may consist of:
 - a. A cursory review of previously submitted data to determine whether or not it has remained adequate.
 - b. A thorough review of any data that has been revised since the last evaluation.
 - c. A thorough review of any new data that has been developed and implemented since the last analysis—for example, review of the quality assurance provisions of a new bonding process introduced subsequent to the last analysis.



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5. When evaluating the data, inspectors should flag:
 - a. Any ambiguous data that may be subject to misinterpretation.
 - b. Any overly complex or cumbersome inspection procedures that may be difficult to implement, be disregarded or even circumvented.

Consistency of Compliance Standards

CASR Part
21

Although the CASR Part 21 production approvals require different types of production control systems, this does not mean that less stringent standards are acceptable for manufacturers of like products or parts. Notwithstanding the type of production approval held, the product or part must, when completed, conform to its approved design and be in a condition for safe operation.

For example, there is no need for an APMA holder who is authorised to produce a replacement part, to have the sophisticated quality management system required of a PC holder. However, the APMA holder must have the same manufacturing and quality control procedures in place, appropriate to the production of the part in question that would be required of a PC holder producing the same part.

Some variance in requirements is balanced by the extent of CASA oversight. For example, an APIS holder is normally subjected to a greater degree of CASA involvement than a PC holder since the production inspection system does not provide for the same assurance of control as that provided under a PC.

Quality System Elements

The system elements detailed below are common to all production approvals, although the level of detail required to ensure control of any particular element may vary between the different types of approvals. Evaluating inspectors must be satisfied that the applicant has adequately addressed each necessary requirement and the procedures are satisfactory to ensure the product or part conforms to the approved design.

The following tables include the essential elements and evaluation criteria.

Note 1: In describing the quality system, references to other documents or data maintained by the applicant may be used, provided that a brief description is included in the quality system. All referenced documents must be submitted for evaluation.

Note 2: In the tables the 'Essential Elements' define the breadth of requirements under each sub-title. The 'Evaluation Criteria' column briefly outlines criterion that satisfy the requirements. The Essential Elements and Evaluation Criteria in the following tables are not meant to directly correlate across the table.



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1. Organisation Structure, Authority and Responsibility of Appointed Persons

Essential Elements	Evaluation Criteria
1. Management has responsibility for the quality system.	1. A concise statement that describes the assigned responsibilities and delegated authority of senior management for the quality system including maintenance of the system.
2. Clearly described responsibilities for control of production and quality functions, including internal audit responsibilities.	2. (i) An organisation chart that shows the functional relationship of the QC organisation to management and to the other organisational components. 2. (ii) A concise statement that describes the authority and responsibilities of each Appointed Person, including CASA Authorised Persons, within the production and quality functions.
3. Management responsibility for training of personnel.	3. A description of the chain of authority and responsibilities within the organisation for task-specific training and maintenance of operator approvals.
4. Personnel performing critical operations, inspections, special processes etc, or certifying for inspections and/or stages of work are adequately trained and approved.	4. Procedures for incorporating changes to the quality system and outlining the authority of those authorised to make such changes.
5. Ensure that each tag, form or other document used under the approved system is described by sample in the approved manual and has instructions for correct use.	5. (i) Procedures to ensure that any change to the quality system that may affect inspection, conformity, or airworthiness of the product are forwarded immediately to CASA in writing. 5. (ii) Procedures to ensure that any change to the production location results in a first article inspection following start-up production at the new location, and advice to CASA within 10 days of the re-location.



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Essential Elements	Evaluation Criteria
6. Ensure procedures exist for keeping a technical master file and record of all current and superseded approved design and production system documentation to ensure the complete production history of product and parts is available.	6. Procedures for establishing and maintaining all controlled documents identified in the quality system.
7. Management has and applies procedures for inspection record retention compliant with the applicable regulatory provision. Record retention includes back-up and security provisions.	7. Procedures that provide for an adequate method of self-audit by the manufacturer of the entire QC system, including supplier facilities. (The prime objective of the self-audit is for the manufacturer to determine compliance with their own procedures and to ensure that management is aware of any existing system deficiencies.)
8. Ensure inspection stamps are controlled and procedures exist to cover stamp loss or absence of the stamp holder.	

2. Technical Data Control

Essential Elements	Evaluation Criteria
1. Technical data (drawings, specifications, software and changes thereto) must be approved only by authorised personnel.	1. Procedures for drawing, engineering and software change control including drawing and specification lists necessary to define the configuration of the CASA approved design.
2. Technical data must be approved prior to release, and should contain the effective date and the signature and position of the person authorised to release the data.	2. Procedures for informing company inspectors of approved changes in engineering data, specifications and the quality system.
3. Distribution of technical data is controlled to ensure that current data is readily available to production and inspection personnel.	3. Procedures that require all process changes to be submitted to CASA for evaluation and incorporation into the approval. Process specification changes are deemed to be major changes.



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Essential Elements	Evaluation Criteria
4. Inapplicable, inappropriate, or obsolete technical data must be removed from use.	4. Procedures to ensure that major changes to the design and data are approved by CASA prior to being incorporated in the product or part.
5. Current approved technical data must be used for inspection acceptance.	5. Procedures to ensure that design changes generated as a result of Airworthiness Directives (ADs) are immediately incorporated in the design data to ensure that the design change is incorporated on production products.
6. Drawings and specifications bearing unauthorised changes or unauthorised notations must not be used for inspection acceptance purposes.	
7. Ensure procedures have been properly implemented to adequately provide for immediate incorporation of design changes resulting from ADs.	
8. Where appropriate, ensure procedures are applied to incorporate production changes back into the applicable Instructions for Continued Airworthiness and Flight Manual.	
9. Ensure a determination of major or minor change is made and recorded for each design change. CASR Part 21.093 applies to APIS and TC designs only . Part 21.132A(2) defines Class II and III product designs, 21.303(3)(c) defines APMA designs and 21.611 applies to ATSOA designs. Ensure procedures acceptable to CASA are applied to approve minor design changes.	

CASR Part 21
21.093
21.132A(2)

21.303 (3)(c)
21.611



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3. Manufacturing Processes

Essential Elements	Evaluation Criteria
1. Production facilities should be arranged to preclude contamination of products and parts—for example, isolation of grinding, painting, or sanding areas from a critical assembly area.	1. Procedures for generating, validating and approving manufacturing and inspection function recording sheets. These should list the approved data to be used, together with methods of inspection by tooling, characteristics, and sampling quantities, and also identify the persons performing the manufacturing work, and those conducting the inspection and certification.
2. Products and parts must be properly handled and stored to prevent corrosion, damage or contamination.	2. Procedures for suitable identification and inspection marking of products and parts throughout the manufacturing cycle—that is, part number, serial number, acceptance, rejection, NDT, process and material identification.
3. Shop travellers, checklists, or similar media should be used to ensure the proper movement, handling, and storage of products and parts from one station to another through all phases of the manufacturing process.	3. A description of actions required, or a flow chart, for processing all products and parts through the manufacturing cycle.
4. Inspection records must be maintained and used as required.	4. Procedures that will provide for the selection of appropriate inspection methods and plans for each product and part to ensure that all parts will be inspected as required to eliminate discrepancies and to ensure that the end item will be in conformity to the design.
5. The degree of protection afforded by any sampling plan used should be known and the associated conditions for its satisfactory use enforced by the manufacturer.	5. Procedures for establishing and maintaining the qualifications of personnel appropriate to the various processes, tests, and inspection functions.
6. Technical data must be appropriately authorised and must reflect the proper revision for the particular manufacturing process.	6. Procedures to control material lot splitting to ensure complete accountability—that is, action to be taken when a lot or batch contains more or less pieces than recorded on the shop traveller or routing sheet.



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Essential Elements	Evaluation Criteria
7. Inspection stations must be located at points in the manufacturing process where accurate quality determinations can be made.	7. Procedures to control the movement of products and parts throughout the manufacturing process showing production and inspection status at all times.
8. Inspection equipment being used must be adequately controlled for accuracy.	
9. The facilities and equipment must be adequate for the manufacture and inspection of the products and parts.	
10. Planning methods must ensure the complete inspection of the in-process product or part up to its completion.	
11. Inspection sequences must be established and inspections accomplished at intervals where accurate quality determinations can be made.	
12. Nonconforming products or parts thereof must be segregated and identified to preclude incorporation into the end product or part.	
13. An operator verification program (production personnel performing in-process checks) if used, should have adequate controls so that final acceptance responsibility remains with the quality control organisation.	
14. The degree and timeliness of training that production personnel receive should be commensurate to the skill level necessary to perform the assigned duties.	
15. The conditions in environmentally controlled areas must be established and maintained through appropriate procedures and calibrated controls.	



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4. Special Processes

Essential Elements	Evaluation Criteria
1. All special processes being performed should be covered by appropriate and approved specifications.	1. Procedures for the control of special process characteristics that affect safety.
2. Special process specifications should contain inspection/quality assurance criteria that will ensure that all products and parts that are processed and accepted, conform to the particular specification.	2. Procedures that require all special process changes to be submitted to CASA for evaluation and approval.
3. Current special process specifications should be readily available and be used by operator and inspection personnel.	3. Procedures for special processes to address necessary controls related to personnel qualifications, equipment, and testing methods.
4. Equipment such as tools, gauges, instruments, timers, ammeters, voltmeters, should be readily available and continuously maintained for accuracy.	4. Procedures for the inspection and quality assurance provisions of the special process specification should be approved as part of the quality system data, when applicable.
5. Processes, equipment, and operators should be qualified and approved by the manufacturer in accordance with the specification/manufacturer's procedures.	5. Procedure for the qualification of special processes and the re-testing should changes be implemented.
6. Products and parts should be properly handled throughout the area to prevent damage, contamination, rust, etc.	
7. Records should be maintained to accurately reflect compliance with the special process specification requirements.	
8. The degree and timeliness of training production personnel received is commensurate to the skill level necessary to perform the assigned duties.	



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5. Non-destructive Inspection

Essential Elements	Evaluation Criteria
1. Operators should be qualified, and approved by CASA, or by the manufacturer when authorised by CASA.	1. Procedure for training, qualification and periodic re-qualification of personnel.
2. Operators' qualifications must be kept current.	2. Procedure for periodic calibration of test equipment, and validation of processes and materials.
3. The operator must always work to the current, applicable process specifications.	3. Procedure for performance of each NDT method utilised, including use of approved data, and certification of completed NDT inspection together with a record of inspection results.
4. Equipment must be inspected and calibrated periodically to ensure accuracy.	
5. Realistic acceptance criteria must be established.	
6. Inspection acceptance/rejection criteria must be established to conform with the current design data.	
7. Records must be maintained to accurately reflect compliance with the specification requirements.	



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6. Tool and Gauge Control

Essential Elements	Evaluation Criteria
1. All equipment used for inspection purposes must have the degree of accuracy necessary to determine conformity of the characteristic being inspected.	1. Procedures to ensure that calibrations are traceable to national standards recognised by NATA.
2. Tool and gauge controls should include procedures for protecting, maintaining, and updating this equipment as required, to ensure product conformity to approved design data.	2. Procedures that provide adequate instructions for the operation, inspection, and testing of all equipment and tooling used for the acceptance of dimensional characteristics.
3. The quality system should require identification, inspection acceptance and periodic reinspection of all inspection equipment.	3. Procedures that ensure adequate control of tools and gauges including initial approval and periodic inspections. The procedures should define acceptable methods of tool and gauge rework and reinspection.
4. Control of inaccurate inspection tools, gauges, instruments, and jigs, must ensure their identification and removal from use until repair, rework, or re-calibration has been accomplished.	4. Procedures to ensure quarantine until re-calibration of tools or gauges identified as out of tolerance or of unknown calibration status.
5. Calibration records must be maintained of all equipment used for inspection purposes. These records should contain the nomenclature, serial number, location, details of all repair or rework accomplished and date next inspection is due.	5. Procedures must be established to uniquely identify and account for calibration of personally owned tools and gauges used for product acceptance.
6. Calibration intervals may be adjusted where analysis of reliable data indicates no adverse effect on safety.	



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7. Receiving Inspection/Supplier Control

Essential Elements	Evaluation Criteria
1. Any holder of a production approval who has delegated inspection duties or relies on suppliers for controlling conformity should ensure by evaluation and/or surveillance that those suppliers are continuously in compliance with his approved QC system.	1. Procedures relative to the manufacturer's periodic evaluation, surveillance, and control of supplier produced raw materials, purchased items, parts and assemblies. Purchase Order documents must be reviewed for accuracy and completeness by an appointed person.
2. Each manufacturer must make information available to CASA regarding all delegation of authority to suppliers to make major inspection of any products/parts thereof.	2. A description of any delegation of authority to suppliers to make inspections or conduct tests of products or parts on behalf of the manufacturer.
3. The manufacturer must advise CASA, in writing, of any authority granted the supplier to ship directly to the user.	3. Procedures for advising CASA of any suppliers performing inspections of products or parts that cannot or will not be completely inspected by the manufacturer.
4. The supplier control function should ensure that all material review actions and design changes taken on supplier-furnished parts and services are approved by the manufacturer, prior to use.	4. Procedures outlining inspection acceptance of raw materials, purchased items, parts and assemblies, including independent verification of material specification.
5. The manufacturer's receiving inspection function must ensure that all supplier furnished parts/services conform to the approved design.	5. Procedures to ensure that suppliers submit all design changes for approval and are provided with the latest applicable revisions to the design data.



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Essential Elements	Evaluation Criteria
<p>6. The manufacturer's receiving inspection function must ensure that all incoming raw material is properly identified by batch, specification and verification test results for the batch to the specification.</p> <p>Parts received under cover of an Authorised Release Certificate (ARC) (Form 917) and marked 'Conformity only', a Statement of Conformity, or equivalent document from a recognised authority would be acceptable in lieu of providing verification test results.</p> <p>If verification test results, an ARC from a CASA approved distribution house or a 'Statement of Conformity' from a supplier are not provided, the manufacturer must undertake verification testing to the material specifications.</p>	<p>6. Procedures to ensure that all incoming material is supplied with appropriate documentation or details of verification testing to be carried out.</p> <p>Shelf-life limited materials and products must have life verified to specification.</p> <p>First article inspection is required on parts from a new supplier.</p>
<p>7. The manufacturer's purchase order or equivalent must reflect the current design data, and the pertinent quality system requirements.</p>	<p>7. Procedures for ensuring inspection acceptance, identification, proper segregation, protection and issuance of product and parts in storage areas, including controls for incorporation of applicable design changes in stored items.</p>
<p>8. Parts that are damaged in transit or parts that are waiting certification must be properly segregated until dis-positioned.</p>	
<p>9. Supplier quality system data, procedures, certificates, reports required for CASA review must be translated to English.</p>	
<p>10. Receiving inspection records must be generated and maintained to establish final conformity of products and parts.</p>	



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8. Inspection and Testing

Essential Elements	Evaluation Criteria
1. The manufacturer must establish and comply with test procedures applicable to products or part design data.	1. Procedures to ensure that the inspection of products or parts will be performed and properly recorded at points in production where accurate quality determinations can be made.
2. For aircraft, the manufacturer must establish and ensure compliance with the approved flight test procedures and flight test check-off form.	2. Procedures to properly perform, control, record, and identify all inspection processes.
3. Test equipment must be controlled and calibrated to ensure accuracy.	3. Procedures to ensure that the use of any statistical sampling inspection plan will not result in an unsafe condition in a product or part.
4. Products and parts subjected to adjustment or rework after inspection must be retested to approved test procedures.	4. Procedures that provide adequate instructions for recording information in inspection records.
5. Where sampling inspection tests are used, other inspections and tests should be implemented, as required, to ensure the acceptance of only those products or parts that conform to the design data and are safe for operation.	5. Procedures for the control, issuance, and use of all inspection stamps, and other in-process marking equipment.
6. Records of all tests conducted must be maintained in accordance with the manufacturer's approved procedures.	



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9. Material Review Procedure (Except for a 21.133(2B) PC).

CASR 21.133

Note 1: The material review process is only permitted to disposition minor changes to the CASA approved design. A major change to design must be approved by CASA before formal disposition of parts through the MRB.

Note 2: A 21.133 (2B) PC holder is ineligible to apply MRB processes. A disposition of 'Scrap' is the only available response to non-conformities unless the design data is changed and re-approved to extinguish the non-conformity.

Note 3: Parts from assemblies dis-positioned as 'Scrap' may be recovered only if the MRB determines those parts do not contain the identified non-conformances.

Essential Elements	Evaluation Criteria
1. Except for APMA and a 21.133(2B) PC a Material Review Board (MRB) must be established and must include representatives from the Inspection and Engineering departments.	1. Procedures that require corrective action (in-plant, at suppliers, and in-service) where processes or procedures result in a nonconforming product/part thereof.
2. The MRB procedures must outline the complete MRB system including requirements for obtaining CASA engineering approval on any non-conformities to the product/part thereof which constitute a major change to the approved design data, prior to final acceptance of the product or part.	2. A description of the Material Review Board System (MRB) including the procedure for recording MRB decisions and disposing of nonconforming products or parts—that is, use as is, rework, scrap, return to supplier. Note: 'Use as is,' is not an option unless the design data is changed.
3. The MRB procedures must provide controls for identification, segregation, and disposition of nonconforming products or parts.	3. Procedures for the identification and segregation of products or parts set aside for MRB review.
4. As part of the decision recording requirements the manufacturer should list the MRB members present.	4. MRB delegation procedures to a similar standard as the manufacturer when the manufacturer relies upon or delegates MRB duties to supplier facilities.



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Essential Elements	Evaluation Criteria
5. Nonconforming products/parts thereof must not be released by MRB until they have been properly dis-positioned and suitable reinspection and retest procedures determined.	5. Procedures for the review of inspection and service records for evaluation and corrective action on repetitive discrepancies.
6. MRB withheld products or parts must be quarantined to prevent their unauthorised removal.	
7. The MRB records must as a minimum include part number, quantity, date, adequate description of non-conformance including a determination of major or minor, disposition, and authorised MRB signatures.	
8. The MRB procedures must provide a system for obtaining effective corrective action in-plant, at suppliers or in-service to prevent recurrence. The procedures must provide for monitoring corrective action response, implementation and effectiveness.	



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10. Stores Control

Essential Elements	Evaluation Criteria
1. The system must ensure that only conforming, accepted and identified products or parts are placed in production storage. Non-conforming items must be suitably identified and quarantined.	1. Procedures for each of the essential element items 1 to 5.
2. The system must ensure that products and parts that are subject to deterioration from prolonged storage are periodically reinspected and dis-positioned and controlled.	2. Procedure for the traceability of incoming material, parts and standard parts, including their matching records and certification or specification documents.
3. The system should assure the protection from damage and deterioration of products and parts that are in process or in transit or stored.	3. Procedures to quarantine and identify non-conforming parts, parts awaiting conformity inspection or materials, including those shelf life expired, awaiting MRB disposition.
4. The system must ensure that required design changes are incorporated on products or parts in storage prior to their release.	
5. The system must ensure that only those products or parts, identified as having passed company conformity inspection are issued from stores.	



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11. Certification and Release

Essential Elements	Evaluation Criteria
1. All engineering data used for the acceptance of the product or part must be CASA approved.	1. Procedures to identify completed products and parts.
2. The product or part must conform to the approved engineering data.	2. Procedures to ensure that all required inspections and tests are satisfactorily accomplished prior to final acceptance of the completed products or parts.
3. All required inspections and tests necessary to ensure that the end product or part conforms to the approved design data and is in a condition for safe operation must be accomplished before the product or part can be certificated as airworthy.	3. Procedures that ensure products or parts are in conformity with approved design data and are in a condition for safe operation.
4. The aircraft, engine, or propeller logbooks and records should have inspections and operating time properly recorded, signed and dated.	4. Procedures to ensure that certifications for completed work are only made by appointed or authorised personnel.
5. Each product or part must be properly identified.	5. Procedure to ensure that the final certification for completion of the manufacture of the product or part is made pursuant to the applicable CASR.
6. A Statement of Conformity under APIS must be properly documented, signed, dated, and submitted to CASA.	6. Procedures to ensure that the Authorised Release Certificate, (ARC Form 917), or other approved document is properly completed, signed and issued by appointed personnel, and that this document provides traceability for the applicable part.
7. Applications for conformity inspection, Certificate of Airworthiness (CoA) or Special Flight Permit (SFP) issue should be properly executed, signed, and submitted to CASA, or where appropriate, an authorised person.	7. Procedures to ensure that completed aircraft, engines and propellers are released with appropriate Log Books, Instructions for Continued Airworthiness and for aircraft, a Flight Manual.



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Essential Elements	Evaluation Criteria
8. Personnel making final certifications are appointed in the quality system.	8. Procedures to ensure that pre-CoA issue work on type certificated products is properly certified. For an aircraft, CoA issue or acceptance by CASA of a Statement of Conformity under APIS marks the end of the production cycle.
9. The system must ensure that before final release, all required ADs are incorporated or accounted for (for aircraft) that all post flight test adjustment has been certified, and the approved flight test completed.	9. Procedures for airworthiness certification of products or parts to be exported, includes appointment of personnel authorised to make such certifications.
10. Persons approving export of products or parts are identified in the quality system and are appropriately authorised. For export approval of aircraft a CASA instrument of authorisation must be held.	

12. Service Difficulty Reporting and Control

Essential Elements	Evaluation Criteria
1. The system should ensure that service problems are investigated and the manufacturer takes corrective actions.	1. Procedures that define the manufacturer's responsibilities and corrective actions relative to service difficulties involving products or parts in-plant, or in-service, including spares in storage or shipped to a user.
2. The system should have a means for keeping users of the product or part informed of service difficulties and resultant CASA-approved changes to the type design.	2. Procedure to ensure reporting of failures, defects and malfunctions to CASA as required by CASR 21.003.
3. The system should provide for receiving feedback on service problems from users of the product or part.	

CASR 21.003

3.3.2 Stage 2 Quality System Assessment – Quality System Evaluation

CASR 21.123(1), 21.135, 21.303(5), 21.605(4) This stage of the assessment consists of an evaluation of the quality system at the production facilities to determine that the applicant has satisfactorily implemented and is capable of maintaining the required quality system. During this stage inspect parts applicable to the application in order to assess the applicant's ability to produce conforming parts or products. CASR 21.123(1), 21.135, 21.303(5) and 21.605(4) refer.

System Assessment

An adequately described system is useless if not properly implemented and maintained. The project officer must therefore ensure that the manufacturer practices rigid system discipline. CASA does not dictate to a manufacturer the specific manner in which a product will be produced. However, once a manufacturer commits to a specific system that is approved by CASA, the manufacturer is obligated to adhere to every facet of the system without deviation. Whenever a change to the system is necessary, the manufacturer must make the change in accordance with the provisions of his approved system prior to implementation. The following guidelines should be utilised during the course of evaluating a manufacturer's quality system functions:

1. Use the standards described under the *Essential Elements* columns in the preceding tables—as applicable—as the basis for conducting the evaluation.
2. Use the information detailed under the *Evaluation Criteria* columns in the preceding tables as an aid in conducting the evaluations of the applicable quality system elements.
3. Be alert to any inadequacies in the system, such as a lack of necessary instructions or procedures, or, more commonly, repetition of regulatory requirements instead of proper procedures. It is virtually impossible during the desk-top review of Section 3.2.2 to determine whether the submitted system complies with all regulatory requirements and provides the necessary safety assurances.

Findings

When a non-conformance to the design or design data is noted, the inspector(s) must continue with the evaluation to determine whether the condition is a symptom of a quality system deficiency or breakdown. When a quality system deficiency or breakdown is indicated, the inspector must evaluate the system to determine the cause. Necessary corrective action must be taken by the applicant to ensure the quality system remains compliant and effective. *Stage 3 Quality System Assessment—Manufacturer's Corrective Action* refers (see next section below).

3.3.3 Stage 3 Quality System Assessment—Manufacturer's Corrective Action

Before CASA can approve the application, the manufacturer must complete corrective action to address all deficiencies or discrepancies arising from assessment of an initial application or change to an existing system.

This stage is completed when the inspector finds that the manufacturer's corrective actions and quality system amendments comply with all pertinent Part 21 requirements and conforming products or parts have been produced following the final form of the quality system submitted for approval.

3.3.4 Manufacturer's Service Documentation

The PAH may need to issue Service Bulletins (SBs), Service Letters or other continuing airworthiness information.

CASA only approves the relevant technical content of a Service Bulletin if a SB is required to address an Airworthiness Directive. The PAH is to submit such a proposed SB to CASA for engineering assessment and approval of the technical content in the form of a letter to the PAH authorizing the issue of the SB.

AC 21.095 The PAH is permitted to issue any other SBs or Service Letters etc. without reference to CASA. However, changes to a design must be approved in accordance with the *PAH's Procedures Manual*. For further information refer to AC 21.095 section 10.

3.3.5 Service Difficulty Reports

In-service Service Difficulty Reports (SDRs) received by CASA relating to production item issues will be processed in accordance with CASA's SDR procedures, and referred to the relevant specialists.

CAR 50 The Manufacturing Inspector is to be involved in any follow-up actions ([CAR 50](#)).

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3.3.6 Reporting of Failures, Malfunctions and Defects During Manufacture

CASR
21.003(4) The holder does not have to report to CASA all failures, defects or malfunctions that **might cause** an occurrence (as listed in **CASR 21.003 (4)**) unless the defective part has left the holder's control by the time the defect is discovered.

CASR
21.003(4)
CASR
21.003(10) The holder must report to CASA all failures, defects or malfunctions that **have resulted** in an occurrence [as listed in **CASR 21.003(4)**]. However, failures, malfunctions and defects caused by improper maintenance or improper usage, or which have been reported to CASA by another person, may not have to be reported to CASA by the holder. See **CASR** Sub regulation 21.003(10).

Manufacturing errors and irregularities can be rectified. Parts found to be defective by the holder's quality system can be repaired, scrapped or quarantined. These defects do not have to be reported to CASA if the parts have not left the holder's control, or can be reliably retrieved.

3.3.7 Supplier Quality Control

The last production quality system is that for suppliers. Suppliers may not have a CASA production approval, however, suppliers make up the bulk of the manufacturing effort in producing aircraft, aircraft engines, and propellers. Suppliers are controlled by the PAH that they work for, i.e., PC, APIS, APMA and ATSOA.

Suppliers are not required to have a quality manual, and have no regulatory privileges or responsibilities. However, they may not sell production parts on the open market without their own production approval.



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3.3.8 Engineering Drawings

Drawings reviewed by CASA and used by MIs in the conduct of conformity inspections must meet a level commensurate with the minimum standards of the CASRs, which assures safety. CASA regulations require that an applicant submit sufficient drawings, special process documents, specifications and test reports to identify and substantiate the product for which CASA approval is sought. CASA reviews this data for minimum compliance with the airworthiness standards. That data is then used for inspecting the product. The CASA MI utilizes the data to witness a conformity inspection of the product at the applicant's facility, or at an agreed upon location, and reports the results of that conformity inspection to engineering. Provided all of the drawing requirements have been met, the product is then tested. If the test is acceptable, the product is approved, and the applicant proceeds to manufacture the part/assembly.

Once a CASA approval is issued, the drawings used to inspect the original product are considered to be the approved CASA baseline. That baseline never changes unless there is a modification to the drawings after the approval is issued. Any deviations from the drawings for a part or assembly must be documented, dis-positioned, and approved in the same manner as the original drawings were.

CASA will accept drawings that meet some recognised drawing standard that can produce a quality part within a minimum tolerance range when the manufactured part has been inspected and tested and has shown to meet the minimum **CASR** requirements.

3.3.9 Use of CASA Form 917 Authorised Release Certificate

CAR 42 **CAR (1988)** 42 WA sets out the requirement for Form 917, and **CAAP 42W2(3)** provides guidance as to the use of the form.

Manufacturers holding a PA may sign a Form 917 to accompany a finished part. However, suppliers to the PAH can only issue some form of conformity statement with clear delivery documents. They are not entitled to issue a Form 917.

CASR 21.133(B) For use by the holder of a PC issued for the support of a FITCOM activity in block 13 'Remarks,' add the words "This ARC is issued under the provisions of **CASR** 21.133(B)." Additionally, a statement qualifying Block 14 is to be entered in Block 13, "This part is manufactured for certificate of Approval Holder number xxx (or owner/operator by name, as appropriate) per order number yyy."

3.3.10 Use of CASA Form 917 for Unapproved Parts

These are parts produced (and to be conformed) to certain controlled design data that has not yet been approved to be part of the Type Design, Usually, these parts are for use in a ground or flight test development or certification program, ie usually a prototype.

Neither the manufacturer nor CASA can sign a release for fitment to a certificated aircraft for such a part. However, the manufacturer or CASA (if requested by a foreign NAA) can do the administrative function of signing a Form 917 limited to conformity only and referring to the particular controlled data against which the product is conformed. This fulfils the function of communication between NAAs in a standardised form.

3.3.11 Export Airworthiness Approvals

A person must be included in the class of persons of the appropriate CASA Instrument of Appointment, to issue a Form 917 as an Export Airworthiness Approval.

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