UK Civil Aviation Authority

Part 21 Subpart G Production Organisation Exposition Guidance

CAP 2967

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Section 0 - Introduction

0.1 Revision History

Issue	Summary of Change	Date
01	Initial Draft	xx/xx/2023

0.2 Definitions & Abbreviations

Abbreviations	
AM	Accountable Manager
AMC	Acceptable Means of Compliance
ARC	Authorised Release Certificate
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
C/S	Certifying Staff
DAH	Design Approval Holder
DO	Design Organisation
FTOM	Flight Test Operations Manual
GM	Guidance Material
ILAC	International Laboratory Accreditation Cooperation
IORS	Internal Occurrence Reporting System
IPO	Intermediary Production Organisation
MOR	Mandatory Occurrence Reporting
PO	Production Organisation
POA	Production Organisation Approval
POE	Production Organisation Exposition
NDT	Non-Destructive Testing
OEM	Original Equipment Manufacturer
PPB	Principal Place of Business
SADD	Statement of Approved Design Data

Abbreviations	
STCH	Supplemental Type Certificate Holder
TCH	Type Certificate Holder
UKAS	United Kingdom Accreditation Service
WH	Working Hours

0.3 Scope & Applicability

The provisions of this user guide are complementary to the requirements of Part 21 Subpart G regulation, as amended, and does not supersede or replace the associated regulatory requirements.

0.4 Purpose

This user guide is designed to be used by:

- Approved Production Organisation - To assist them in the production of their own POE.
- Airworthiness Surveyor – For guidance when conducting routine reviews.

Along with Part-21 Subpart G holders guidance as published on the CAA Website

Section 1 - General Guidance – Production Organisation Exposition (POE)

1.1 Preliminary Considerations

The POE shall be customised by each organisation to demonstrate how they comply with:

- Part 21 Subparts A, G, K and Q, and
- When within scope Part 21 Subpart O and P

The purpose of a POE is to set forth in a concise format the organisational relationships, responsibilities, terms of reference, and associated authority, procedures, means and methods of the organisation.

The information to be provided is specified in 21.A.143(a) and 21.A.139(b)(1). Where this information is documented and integrated in manuals, procedures and instruction, the POE should provide a summary of the information and appropriate cross-reference.

The CAA requires the POE to be an accurate definition and description of the production organisation. The document does not require approval in itself, but it will be considered as such by virtue of the approval of the organisation *(the POE is accepted by the CAA)*.

When changes to the organisation occur, the POE is required to be kept up to date per a procedure, laid down in the POE. Significant changes to the organisation (as defined in GM 21.A.147(a)) should be approved by the CAA prior to update of the POE.

When an organisation is approved against any other implementing rule containing a requirement for an exposition, a supplement covering the differences may suffice to meet the requirements of Part 21 Subpart G except that the supplement should have an index identifying where those parts missing from the supplement are covered. Those items then formally become part of the POE. In any combined documents the POE should be easily identifiable.

1.2 Exposition Format & Language

It is the CAA policy that the POE must be produced in an electronic format, such as a Portable Document Format (PDF). This must then be submitted via the guidance on the CAA approvals webpage. (https://www.caa.co.uk/commercial-industry/aircraft/airworthiness/organisation-and-maintenance-programme-approvals/part-21/)

The POE shall be submitted in English as the dominant language and in the case of a multilingual POE, the English text shall precede the second language. The organisation must ensure that translation is accurate.

1.3 Terms of Use

For the purposes of this guidance material, the references to the POE document are identified by the following terms:

- “POE Part” is used to identify the main parts of the POE (e.g., Part 1 – Management, Part 2 - Production Procedures, Part 3 – Management System.) as identified in 21.A.143(a)
- “POE chapter” is used to identify each chapter within a POE Part (e.g., POE 1.2 – Management Personnel, POE 2.2 – Supplier Control, POE 3.4 – List of Significant Sub-Contractors, etc.).
- “POE paragraph” is used to identify a paragraph within a POE chapter.

1.4 Structure of the Exposition

GM 21.A.143

As mentioned previously the POE should concisely set forth the organisational relationships, responsibilities, terms of reference, and associated authority, procedures, means and methods of the organisation.

Where this information is documented and integrated in manuals, procedures and instruction, the POE should provide a summary of the information and appropriate cross-references to these associated documents.

The POE shall cross refer to any associated procedures, documents, appendices, forms or lists which are managed separately (e.g., the list of Certifying Staff, the capability list, the list of sub- contractors, etc). The control and management of these procedures and documents should be summarised in chapter 1.11.

- The associated documents must meet the same rules as described for the POE.
- The associated documents, procedures and forms etc. shall be provided to, and be approved by the CAA (as part of the overall POE approval).
- In the case of a referenced document, the POE chapter shall contain a concise summary of compliance to the relevant areas of standard of the regulation. A simple reference to a separate document is not acceptable.

For any 21.A.143(a) or 21.A.139(b)(1) item that is not applicable, the POE should clearly indicate this point.

1.4.1 Exposition Pages Presentation

The front/cover page of the POE shall be identified as follows:

- the name of the organisation (official name as defined on the CAA Form 55 approval certificate);
- the issue number of the POE;
- the issue date;
- the revision number of the POE;
- the revision date;
- the document title and reference number;
- The PART 21 Subpart G organisation's Approval reference;
- The organisation's Principal Place of Business *(CAP1539)* address, telephone, fax numbers and a contact e-mail address which may be generic;

Each page of the POE shall be identified with the following (this information may be added in the header or footer), where applicable:

- document title and reference number;
- the name of the organisation (official name as defined on the CAA Form 55 approval certificate).
- issue number and issue date of the POE.
- revision number and revision date of the POE.

- POE chapter (e.g., 1-5).
- page number.

Section 2 - POE Structure, Content & Format

Part 0 - Introduction

The following section provides AMC for the contents of a POE. The paragraph numbering conforms to that detailed in Part-21 Subpart G.

0.1 Table of Contents

For standardisation purposes and to facilitate the production of the POE by the organisation, the CAA recommends adoption of the standardised POE table of contents provided in the chapter 0.1 “table of contents” of this User Guide (POE Part 0 to Part 3). The production organisation should customise the document to suit their organisation and may add parts, chapters and/or paragraphs, as necessary.

Where any chapter or paragraph is not used or not relevant to the applicable organisation, then it shall be shown in the Exposition as ‘Not Applicable.’

0.2 List of Effective Pages

See 2.4.1 of this document for details on Issue/Revision numbering.

The example below uses both an Issue number and Revision number as well as indicating the revision date of each page.

Page no.	Issue no.	Revision no.	Revision Date	Page no.	Issue no.	Revision no.	Revision Date
PART 0				121	**1**	1	01/01/07
001	**2**	**0**	01/01/12	122	**1**	1	01/01/07
002	**2**	**0**	01/01/12	**PART 2**			
003	**2**	**0**	01/01/12	201	**1**	**0**	19/12/06
004	**2**	**0**	01/01/12	202	**1**	**0**	19/12/06
005	**2**	**0**	01/01/12	203	**1**	**0**	19/12/06
006	**2**	**0**	01/01/12	204	**1**	**0**	19/12/06
007	**2**	**0**	01/01/12	205	**1**	**0**	19/12/06
008	**2**	**0**	01/01/12	206	**1**	**0**	19/12/06
009	**2**	**0**	01/01/12	207	**1**	**1**	01/01/07
PART 1				**PART 3**			
101	**1**	**0**	19/12/06	301	**2**	**0**	01/01/12
102	**1**	**0**	19/12/06	302	**2**	**0**	01/01/12
103	**2**	**0**	01/01/12	303	**1**	1	01/01/07
104	**1**	**1**	01/01/07	304	**1**	1	01/01/07
105	**1**	**1**	01/01/07	305	**1**	**0**	19/12/06
106	**1**	**0**	19/12/06	306	**1**	**0**	19/12/06
107	**1**	**1**	01/01/07	307	**1**	**0**	19/12/06
108	**1**	**1**	01/01/07	308	**1**	**0**	19/12/06
109	**2**	**0**	01/01/12				
110	**1**	**1**	01/01/07				
111	**1**	**0**	19/12/06				
112	**1**	**1**	01/01/07				
113	**1**	**0**	19/12/06				
114	**1**	**0**	19/12/06				
115	**1**	**1**	01/01/07				
116	**1**	**0**	19/12/06				
117	**1**	**0**	19/12/06				
118	**1**	**0**	19/12/06				
119	**1**	**0**	19/12/06				

POE **Issue 2, Revision** 0 dated **01/01/12**

POE internal Review by the organisation:

Reviewed by: (name, position and signature)	**Date:** xx/xxx/xxxx

POE Approval[1]:

Approved by: (name, position and signature)	**Date:** xx/xxx/xxxx

[1] The initial issue of the POE will be approved through a formal letter issued by the CAA. This letter shall be made available to the final users.

0.3 List of Issues / Amendment Record of Revisions

This paragraph details the changes made in each Issue or Revision change.

Issue number	Issue date	Revision number	Revision date	Revision type	Reason for change
1	19/12/06	0	19/12/06	**INITIAL**	**n/a**
		1	01/01/07	Minor	New procedure for xxxx
2	01/01/12	0	01/01/12	Significant	Change of Quality Assurance Manager and extension of the A1 scope of approval

0.4 Distribution List

This paragraph shall list the recipients of the POE.

POE HOLDER	FORMAT
Accountable Manager	PDF
Production Manager	PDF
Supply Chain Manager	PDF
Nominated NDT Level III	PDF
Quality Manager	PDF
CAA	PDF
Reserved	
Reserved	

0.5 Terms and Abbreviations

This chapter is not necessary if abbreviations are defined within the text of the POE.

0.6 Introduction

This chapter should give a general overview of the approved organisation, including its history, major industrial sectors.

Part 1 – Management

1.1 Corporate Commitment by the Accountable Manager

21.A.143(a)(1), 21.A.145(c)(1), 21.A.165(b) – UK Reg (EU) No 376/2014

This Exposition and any associated manuals define the organisation and procedures upon which the CAA Part 21 Subpart G approval is based as required by Part 21.A.143

These procedures are approved by the undersigned and must be complied with to ensure that all production activities, progressed under the terms of the Part 21 Subpart G approval, are performed to an approved standard.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the CAA from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that the approval of the production organisation is based on the organisation's continuous compliance with the applicable requirements of Part 21, and with the organisation's procedures described in this exposition. It is further understood that the CAA reserves the right to suspend, limit or revoke the Part 21 Subpart G approval of the organisation if the organisation fails to fulfil the obligations imposed by Part 21, or other conditions applied for granting of the approval.

The organisation is committed to maintain and promote a "Just Culture" where an environment of trust in which people are encouraged to provide safety related information where it is clear what is acceptable and unacceptable behaviour.

Signed: _____

Dated: DD / MMM /YYYY

Accountable Manager

(*quote position in organisation*)

on behalf of (*quote organisation's name*)

If the Accountable Manager is not the highest level responsible for the organisation, then that person must countersign the statement or there is a letter of delegation sufficient to allow the Accountable Manager to discharge their regulatory responsibilities and duties required under the approval.

Whenever the Accountable Manager is changed it is important that the new Accountable Manager signs the statement at the earliest opportunity as part of his/her acceptance by the CAA.

**** Note – A new AM signature is required at each issue of the exposition.***

1.2 Management Personnel

21.A.143(a)(2), 21.A.145(c)(1) and (2)

This chapter shall identify the management personnel of the organisation by listing, as a minimum, the title and names of the Accountable Manager plus all the persons nominated to hold a position as required by 21.A.145(c)(2). Deputies may also be identified. The group of "nominated persons" shall be chosen/identified so that all the Part 21 Subpart G functions are covered under their respective responsibilities and their credentials shall be submitted to the CAA using a CAA Form 4 (SRG 1705).

The POE chapter 1.2 needs to be at any time consistent with the POE chapters 1.4 and 1.5 and shall represent the up-to-date description of the production management structure of the organisation.

For a typical POA the following management personnel should be named in the POE although may not be required to be a Form 4 holder.

- Accountable Manager
- Quality Manager *
- Nominated Level III **
- Production Manager ***
- Manufacturing & Engineering Manager ***
- Supply Chain Manager ***

* Required to be Form 4 holder

** Required to be Form 4 holder if the Scope of Work includes NDT activities.

*** Dependent upon the size of the organisation as well as the duties and responsibilities delegated directly by the Accountable Manager the CAA may consider these personnel are required to hold a Form 4, GM 21.A.145(c)(2).

Other management personnel that are integral to efficient performance of the organisation should be named, however the CAA may only consider that these personnel require to hold a Form 4 dependent upon the duties and responsibilities delegated directly by the Accountable Manager, GM 21.A.145(c)(2).

1.3 Duties & Responsibilities of Management Personnel

21.A.143(a)(2) and (3), 21.A.145(c)(1) and (2), GM 21.A.145(c)(1), GM 21.A.145(c)(2)

The duties and responsibilities of all management personnel identified in the POE chapter 1.2 must be detailed in this chapter. It shall be ensured that all Part 21 Subpart G functions are addressed, as applicable to the organisation.

Any Part 21 Subpart G function, which is applicable to the organisation (e.g., to perform the independent audit, to issue the CAA Part 21 Subpart G C/S authorisations, to have available appropriate facilities, working conditions, equipment and tools, to issue authorised release certificate, etc.) shall be under the responsibility of a Nominated Person as listed in POE chapter 1.2 who shall ensure compliance of that function with the relevant Part 21 Subpart G requirements.

The responsibilities of a Nominated Person cannot be delegated to other Manager(s).

The duties of any Nominated Person may be delegated to other Manager(s) who are reporting to him/her.

The POE chapter 1.3 needs to be at any time consistent with the POE chapters 1.2 and 1.4 and shall represent the up-to-date description of the management structure of the production organisation.

1.3.1 Accountable Manager

The Accountable Manager is responsible for:-

- ensuring that all production work is carried out by the approved organisation meets the standards required by the CAA.
- nominating the management staff with appropriate relevant knowledge and satisfactory experience related to the production activities performed by the production organisation.
- ensuring that the necessary finance, staff resources and facilities are available to enable the organisation to meet Part 21 Subpart G obligations.
- ensuring that a production management system and quality management elements is established , implemented and maintained.
- the supervision of the progress of the corrective actions/review of the overall results in terms of quality.
- ensuring the competence of all personnel including management personnel has been assessed and is being monitored.
- ensuring a just culture is established and promoted within the organisation.
- ensuring that any charges, as prescribed by the CAA in respect of the Part 21 Subpart G approval, are paid.

Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel. Depending on the structure of the organisation some duties may be distributed differently. In case the accountable manager is not the chief executive officer, the CAA needs to be assured that he/she has direct access to the chief executive officer and has access to sufficiency of necessary financial funding.

1.3.2 Quality Manager

The Quality Manager is responsible, under the direct authority of the Accountable Manager, for:- (this is not an exhaustive list)

- establishment, implementation and maintenance of the organisations quality system in compliance with Part 21 and CAA requirements.
- establishment, implementation and maintenance of an independent quality assurance function to monitor compliance of the approved organisation with Part 21 and CAA requirements.
- they shall have direct access to the Accountable Manager on matters concerning the quality system;
- implementation of a quality audit programme in which compliance with all procedures is reviewed at regular intervals. They should ensure that any observed non-compliances or poor standards are brought to the attention of the person concerned via his/her manager.
- follow up and closure of any reported non-conformance.
- establish regular meetings with the Accountable Manager to appraise the effectiveness of the quality system. This will include details of any reported discrepancy not being adequately addressed by the relevant person or in respect of any disagreement concerning the nature of a discrepancy.
- submission of the POE and any associated amendments, to the CAA for approval (which includes completion of and submission of online applications, CAA Form 4 (SRG 1705)).
- assessing Subcontractors and suppliers of new and used components and materials for satisfactory product quality in relation to the needs of the organisation.
- issue /renewal/cancellation of CAA Part 21 Subpart G C/S individual authorisations.
- coordinating action on airworthiness occurrences and for initiating any necessary further investigation and follow-up activity.
- assessing subcontractors working under the quality system and maintaining the expertise necessary to be able to do so, to the satisfaction of the CAA.
- the notification to the CAA, as applicable according to the procedures established in the POE, of production activities conducted outside the approved locations.
- Notifying the CAA of quality escapes that have the potential to impact the safe operation of parts, appliances or products.

The quality assurance function is required to be independent from the functions being monitored. This required independence relates to the lines of reporting, authority and access within the organisation and assumes an ability to work without technical reliance on the monitored functions. Thus, the Quality Manager and the quality assurance staff are not directly involved in the Part 21 Subpart G production function being audited.

Depending on the organisation structure, some of the quality system duties may be delegated to one or several managers who report to the Quality Manager and are therefore not subject to a CAA Form 4 (SRG1705).

1.3.3 Nominated NDT Level III

The Nominated NDT Level III is responsible, under direct authority of the Accountable Manager, for:-

- Control and management of NDT special processes undertaken with in the scope of approval.
- Identify any additional NDT qualified Level 3 personnel necessary for coverage when the Nominated Level 3 is not qualified in all NDT methods used by the Organisation;
- Identify any additional Level 3 personnel necessary to provide adequate day-to-day coverage depending on the size/facilities of the Organisation;
- Approve the Organisation's NDT procedures;
- Approve the Organisation's written practice for the training and qualification of NDT personnel in accordance with CAA requirements;
- Ensure that the organisations NDT procedures are reviewed every 12 months;
- Ensure that technical audits (both system and product) are carried out or supported by appropriately qualified personnel every 12 months

Any additional duties and responsibilities may be added provided they do not conflict with those of other management personnel.

1.3.4 Production Manager

The Production Manager is responsible, under the direct authority of the Accountable Manager, for:-

- ensuring that products are manufactured within the scope of the Part 21 Subpart G approval are in conformity with the applicable design data and are in a condition for safe operation prior to issuance of an authorised release.
- ensuring that the organisation has facilities appropriate to the planned production.
- ensuring that the organisation has office accommodation appropriate to the management of the planned work.
- ensuring that the organisation has a working environment appropriate to the tasks being undertaken.
- ensuring that the organisation has sufficient competent personnel to plan, perform, supervise, inspect and certify the work being performed.
- ensuring that the organisation has appropriate tools, equipment and materials to perform the planned tasks.
- ensuring that the organisation has storage facilities for parts, tools, equipment and materials of the appropriate standard.
- ensuring that the organisation has all necessary data as required by Part 21.

The Production Manager should notify the Accountable Manager if unable to achieve any responsibilities.

Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel. Depending on the structure of the organisation some duties may be distributed differently.

1.3.5 Supply Chain Manager

The Supply Chain Manager is responsible for:-

- establishment, implementation and maintenance of vendor and subcontractor assessment, audit and control processes i.a.w. Part 21 and CAA requirements.
- ensuring conformity of all externally provided processes, products, and services, including from sources defined by the customer.
- identifying and managing the risks associated with the external provision of processes, products, and services, as well as the selection and use of external providers.

Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel. Depending on the structure of the organisation some duties may be distributed differently.

1.3.6 Manufacturing & Engineering Manager

The Manufacturing & Engineering Manager is responsible for:-

- Ensuring the production/manufacturing data used by the POA produces products, parts and appliances in conformity with the specified applicable design data and is in a condition for safe operation.

Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel. Depending on the structure of the organisation some duties may be distributed differently.

1.4 Management Organisation Chart.

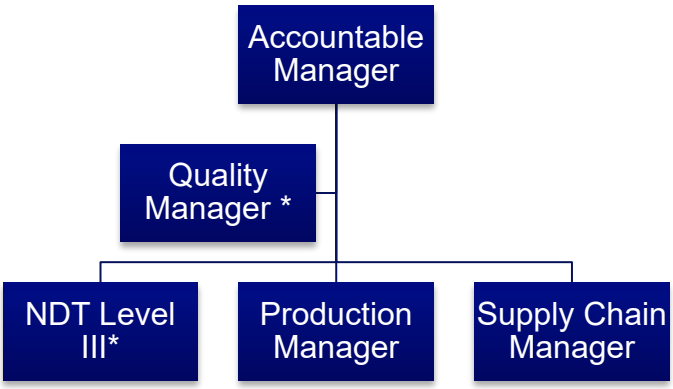
21.A.145(c)(1) and (2) / AMC 21.A.145(c)(1) and (–) - 21.A.143(a)(5).

The organisation chart shall show the associated chains of responsibility of the “nominated persons” identified in Chapter 1.2. When other “Managers” are identified in chapter 1.2 they need also to be reflected in the organisation chart to show that they report ultimately through a “nominated person” to the Accountable Manager. If the approved organisation is a sub-division of a larger entity the organisational chart should show the relationship with the greater organisation.

The organisation chart of this chapter needs to be at any time consistent with the POE Chapters 1.2 and 1.3 and shall represent the up-to-date description of the maintenance management structure of the organisation

The following is an example of a Part 21 Subpart G Approved Production Organisation structure:

EXAMPLE



Any post annotated with * requires a CAA Form 4 (SRG 1705)

The CAA Form 4 (SRG 1705) Post-holders shall be clearly identified in the chart. The names of the management personnel may be included in the boxes of the organisation chart, but this is optional. Quality assurance personnel must be shown to be independent from the Production Managers.

Certifying Staff may report to any of the managers specified depending upon which type of control the approved organisation uses as long as the quality assurance function specified in 21.A.139(b)(2) remains independent.

1.5 List of Certifying Staff.

21.A.143(a)(5), 21.A.145(d), AMC 21.A.145(d)(1)

This chapter shall list all authorised Certifying Staff as well as the details of how the list is managed (in conjunction with chapters 1.9 and 1.10).

1.5.1 Content of the list(s).

This list must include at least the following main information:

- Name/forename.
- Staff number.
- Stamp number, if applicable.
- Authorisation identification number.
- Scope/limitation of the authorisation.

Note: Additional records may be used to record the following certifying staff details:

a) Date of Birth

b) Basic Training and standard attained

c) Specific Training and standard attained

d) If appropriate – Continuation Training

e) Experience

f) Date of first issue of the authorisation

g) If appropriate – expiry date of the authorisation

h) Identification Number of the authorisation

1.5.2 Management of the list.

This procedure shall detail the following:

- Identification and management of the list(s).
- Approval of the list in conjunction with POE Chapter 1.9 and 1.10.
- Retention of records:
    - Duration / location.
    - Type of documents (evidence).

The Certifying Staff list may be directly inserted in this chapter of the POE or managed as a separate associated list.

For example, it is possible to cross-refer from this chapter 1.5 to another document (including a computer record) where a list of authorised staff is held. In this case an explanation of where the list is maintained and how it is updated shall be included in this paragraph thereby meeting the intent of the CAA requirements.

This list, whether included in or separated from the basic POE, is an integral part of the approval. This means that it shall be approved by the organisation, through a procedure which has been agreed by the CAA (refer to chapters 1.9, and 1.10).

1.6 Manpower Resources.

21.A.143(a)(6), 21.A.145(a) GM 21.A.145(a)

The organisation must be able to demonstrate that it has sufficient personnel for each function according to the nature of the work and the production rate, a sufficient quantity of qualified personnel to accomplish all specified manufacturing tasks and to attest the conformity. Their number should be such that airworthiness consideration may be applied in all areas without undue pressure.

There is no need to amend this chapter as result of routine fluctuations, however any significant re-deployment or loss of staff or any staff change having impact on the approval shall be captured and notified to the CAA according to the criteria specified in the POE 1.10.

- Summary indication of the total number of staff including all the staff categories below. Where the approval is sub-divided into sites or different major functions the resources should be related to each site and function
- Splitting of the total staff number in the various staff categories. A summary table is expected to include:
    - Management personnel
    - Quality assurance staff
    - Certifying Staff
    - Design/Engineering staff
    - Production staff
    - Technical support staff, such as
        - Purchasing
        - Training
- The number of contracted staff should be indicated. Additionally, the arrangements for temporary contracting of staff should be detailed.

Note: If an organisation chose to "contract in" nominated personnel, details of the arrangement and associated resource plan need to be either listed or referred to within this section.

NOTE: Organisations must declare the <u>total number of staff</u> employed within their approved organisation in the Exposition.

1.7 Facilities.

21.A.143(a)(7), 21.A.145(a) GM 21.A.145(a), 21.A.8(a)

This section shall describe each and all the facilities, in some detail, at which the organisation intends to conduct production activity[2] under the Part 21 Subpart G approval, thereby providing a clear picture of what the CAA is being asked to approve. A plan of the facility should be included together with approximate floor areas and layout. If more than one site is to be approved the details of each individual site should be clear.

1.7.1 Principal Place of Business (PPB).

The PPB is the head office or the registered office of the organisation within which the principal financial functions and operational control of the activities referred to in Part 21 Subpart G regulation are exercised.

The PPB is the address which will be included in the CAA Form 55 approval certificate together with address(es) of other production sites. Further guidance can be found by referring to UK Interpretation of Principal Place of Business(CAP 1539)

1.7.2 Postal (surface mail and e-mail) address

The postal address of the production organisation to be used by the CAA for formal mail communication needs to be clearly identified.

In addition, to ensure an efficient and stable communication channel between the CAA and the production organisation, the organisation may create a “generic” email address (without reference to a family name) to be used regardless any future personnel changes**.**

[2] Production activities are those listed in 21.A.139(b)(1).

1.8 Scope of Work.

21.A.143(a)(8), 21.A.151 and GM 21.A.151

This chapter must show the range of work conducted at each approved site. When production activities are conducted in multiple locations the corresponding scope of work shall additionally be detailed for each site. This shall also relate to chapters 1.7 in such a way that it can be clearly seen which specific tasks are performed at each location.

The organisation scope of work is determined through applicable design links.

The description of the scope of work in this section should be more specific and more detailed than that quoted on the Approved Certificate, but should remain within the scope defined in the certificate. The details given should include the relevant DO/PO arrangements and associated SADDs.

If used a Capability List may be included as an appendix or referenced as a separate document. The list should detail of part numbers produced by the organisation along with details of the applicable DO/PO arrangement and SADD.

1.8.1 Key Production Processes.

This paragraph should give details of the key production processes used by the organisation to support the scope of work detailed in Chapter 1.8. When production activities are conducted in multiple locations the key production processes performed at each site should identified. This shall also relate to chapters 1.7 in such a way that it can be clearly seen which specific tasks are performed at each location.

1.9 Notification Procedure to the Authority Regarding Changes to the Organisation's Activities / Approval / Location / Personnel.

21.A.147(a) GM 21.A.147(a) - 21.A.148 AMC 21.A.148 – 21.A.148 AMC 21.A.148 – 21.A.149 GM 21.A.149, 21.A.153

CAA approval is based on the management, organisation, resources, facilities and scope of work described in this Part 1 of the Exposition. Any significant change may therefore affect the conditions under which the approval was granted. This chapter is intended to show the process to be used by the organisation to notify the CAA of any change affecting the approval.

1.9.1 Notification

The procedure shall define the changes to be notified directly to the CAA using the online application form and the ones that can be notified directly to the Assigned Surveyor.

EXAMPLE Below

Note: The term "Quality Plan" is to be interpreted as the planning document being utilised to plan the relevant change within the organisation. The plan will cover but not be limited to ;

- ***Purpose of the change and associated risks,***
- ***maintain integrity of the production management system,***
- ***availability of resources,***
- ***responsibility and authority***
- ***timeline***

	Type of change	Examples of change	Change Approval process (1.11)		Documentation to be provided (1.10)	
			Significant Change	Minor Change	To CAA: apply@caa.co.uk	To the assigned AW Surveyor
			Direct Approval (CAA Approval)	Production organisation approval and CAA acknowledgment		
Location	Change of Organisation Name		X		• Online Application • Certificate of Incorporation	• POE and associated documents as applicable • Quality Plan
Location	Change to the locations/facilities of the production organisation with or without amendment to the scope or capability	• PPB address change. • Address change of any production site already approved. • Additional / Removal of production locations • Modification, extension, reduction, or re-organisation of an approved production location.	X		• Online Application • Certificate of Incorporation in the case of PPB change	• POE and associated documents as applicable • Quality Plan
Production Management System	Change of the Accountable Manager	•	X		• Online Application •	• POE and associated documents as applicable. • CV/CAA Form 4 (SARG 1705)
Production Management System	Change in Nominated Post Holder	•	X		• Online Application • CAA Form 4 (SARG 1705)	• POE • Competency Assessment
Production Management System	Changes in the organisation structure especially those parts of the organisation in charge of quality.	•	X		• Online Application •	• POE • Quality plan
Production Management System	Changes in the production or quality systems that may have an impact on the conformity/airworthiness of the product, part, or appliance.	•	X		• Online Application •	• POE • Compliance checklist

	Type of change	Examples of change	Change Approval process (1.11)		Documentation to be provided (1.10)	
			Significant Change	Minor Change		
			Direct Approval (CAA Approval)	Production organisation approval and CAA acknowledgment	To CAA: apply@caa.co.uk	To the assigned AW Surveyor
Capacity/Methods	Reduction or increase of the staff number when the variation:	• >10% of staff as declared in Section 1.7	X		• Online Application	• POE • Resource plan
	Any change to the manufacturing methods, equipment, tools, materials that could affect the approval.		X		• Online Application	• POE and associated documents as applicable. • Quality plan
	Reduction or increase of the scope of work or scope of approval .	• Addition/removal of a rating. • Extension or removal of an approval limitation. • New production method/technology	X		• Online Application	• POE and associated documents as applicable • FAIR • Internal Audit Report
	Reduction or increase of the scope of work within existing scope of approval.	• Addition/removal of a part or appliance within existing scope of approval, utilising existing production methods.		X		• POE and associated documents as applicable • FAIR • Internal Audit Report
Supply Chain	Any change in the placement or control of significant sub-contracted work or supplied parts	• Change in performance monitoring and/or oversight methods. • Addition of significant sub-contractor/supplier • Additional delegations given to a significant sub-contractor	X		Online Application	• POE and associated procedure • Approved supplier list • Supplier Oversight plan

In addition, this procedure shall also detail:

- When to notify the change
- How to notify the change
- Who in the production organisation is in charge of the notification.
- Where to send the notification (apply@caa.co.uk).

1.9.2 Management of the change with the assigned Surveyor

Once the change has been notified, the production organisation shall detail how the related change is internally managed:

- Internal audit by the Quality system
- Composition of the package associated to any of the above listed changes (e.g. Online application, POE, internal audit, C of I, CAA Form 4 (SARG 1705), etc.)
- Who in the production organisation is in charge of monitoring the change with the assigned surveyor?

For initial approval and change of approval applications, the organisation shall conduct an internal audit in accordance with its audit procedures detailed POE Chapter 3.2, prior to the audit by the assigned surveyor, confirming that processes, areas, activities and personnel subject to the application have been reviewed and audited showing satisfactory compliance with all applicable Part 21 requirements. The relevant audit report together with a statement of compliance from the Quality Manager shall be provided to the assigned surveyor.

The requirement to have such internal audit conducted as part of any application for change, shall be addressed in a procedure under this POE Chapter 1.9.

1.10 Exposition Amendment Procedures (including delegated procedures).

21.A.143(a)(10), (b) and 21.A.165(a)

The Exposition shall be maintained as an up-to-date description of the organisation and in compliance with the latest regulations and guidance material.

The Quality Manager is responsible for the monitoring and amendment of the Exposition, including associated procedures manuals, and the submission of proposed amendments to the CAA.

1.10.1 POE Amendment.

This procedure shall at least address the Exposition amendment procedure.

- Person responsible for amending the Exposition.
- Definition of criteria for new issue and/or revision
- How amendments are identified and highlighted within the document.
- The record of the Part 21 Subpart G approval certificate and acceptance of the POE and subsequent amendment shall be described:
    - Approval/acceptance letter/email from the CAA
    - Part 21 approval certificate and/or appendix amendments following evolution of the scope of activity and/or evolution of the locations and/or a new issue of the POE.

- Significant change approval and associated POE acceptance

1.10.2 Associated Procedures, Lists and Forms.

The minimum procedures/lists to be considered are all those identified in 21.A.139(b)(1), which are therefore integrally part of the Exposition.

This procedure shall at least address:

- Summary table of associated procedures and lists:

Example:

Type of Document	*Document reference*	*Document internal approved by POA Holder*	*Approved by*	*Scope of minor amendments to may be internally approved.*
Associated Procedures Manual	APM	✓	Quality Manager	Minor amendments Typing errors
Part 21 POA Compliance Checklist		✓	Quality Manager	
Certifying Staff list	POA-DOC-1	✓	Quality Manager	Less than 10% total C/S Staff and do not affect current scope
List of outside parties	POA-DOC-2	✓	Quality Manager	Addition/removal of a subcontractor, supplier or service provider
NDT Written Practice	POA-DOC-3	✓	NDT Lev.3 and Quality manager	Typographical updates to existing methods
Flight Operations Manual	FTOM	X	CAA	

Note: Table above is for example only and not exhaustive.

- The types of amendments that can be made without direct approval by the CAA.
- The personnel responsible for authoring and approval
- Definition of criteria for new issue and/or revision

1.10.3 List of applicable regulations and supporting Documents

This paragraph is optional and may be used to describe how the organisation ensures the POE and associated procedures/lists remain updated with the current regulations and CAA guidance.

This paragraph is aimed to list the applicable regulations and CAA guidance, together with their revision status, which have considered for the development of the current revision of the POE and associated procedures/lists.

The quality system is responsible to assess any revision of the applicable regulations and user guides for possible impact on the organisation's procedures/lists and to amend them, as necessary.

The POE and associated procedures/lists are expected to be amended before the date of entry into force specified in the applicable regulation or document.

1.11 Overview of the quality management system and the procedures

21.A.143 (a)(11), 21.A.139(b)(1)

This chapter will give a general description of the quality management system established to meet Part 21 Subpart G requirements and the procedures detailed in the POE, which may use references to a company manual, or to any other document applied in the quality management system (e.g. in

accordance with ISO 9001, EN 9100, ASTM F2972 or other suitable standards). These references do not need to explicitly include the revision status of these documents.

The paragraph should indicate the person/department responsible for the quality management system and it's implementation.

1.12 List of Outside Parties

21.A.143(a)(12), 21.A.139(a)

The list of outside parties, which should contain the outside parties that operate under the quality system and the procedures of the manufacturer (i.e. the extended workbench). *Typically known as a Supplier List*

Dependant on the scope of agreement/arrangement, this list could also include service providers i.e. calibration service, archive/record retention etc..

If the list is maintained as a separate document, it is to be listed and controlled as per section 1.10.2.

1.13 Permit to Fly (as applicable)

21.A.143(a)(13)

This chapter will either contain the FTOM directly or contain a refence to the document. If the FTOM is maintained as a separate document, it is to be listed and controlled as per section 1.10.2.

The content of the FTOM is detailed in 21.A.143(a)(13) and AMC to 21.A.143, 21.A.243, 21.A.14(b), 21.A.112(b) and 21.A.432(b).

Part 2 – Production Procedures

2.1 Airworthiness Co-ordination

21.A.4, 21.A.139(b)(1)(ix), 21.A.145(b)(1), 21.A.165(g)

This chapter should give a general description of processes by which the POA holder obtains airworthiness data from aviation regulatory authorities and applicable design approval holders. Additionally, the details of the data review, distribution and action should be included.

It should also give general details of the procedures and processes to be used when an applicable design approval holder requests assistance with continuing airworthiness actions related to products, parts or appliances that have been produced.

2.1.1 Airworthiness Data from Regulatory Bodies

21.A.145(b)(1)

This paragraph should detail the processes used by the organisation to ensure that all applicable airworthiness data published by regulatory bodies is actively sought, reviewed for relevance and when necessary incorporated into production data.

2.1.2 DO/PO Arrangements

21.A.4, AMC 21.A.4, 21.A.133(b) & (c), AMC 1 & 2 to 21.A.133(b) & (c), 21.A.165(g)

This paragraph should give general details of establishment of links to approved design organisation and the confirmation of these links via issuance of DO/PO arrangement documents. The minimum content of an arrangement is detailed in AMC No 1 to 21.A.133(b) and (c) and a sample arrangement document with instructions for completion is given in AMC No 2 to 21.A.133(b) and (c). The information detailed in AMC No 1 in either AMC No 2 format or any other dictated by the design organisation, must be obtained prior to release on a CAA Form 1. Failure to obtain such an arrangement will prevent the parts being delivered on an CAA Form 1.

The personnel who are responsible for the establishment of these arrangements as well as those who are responsible for the control of the commitments laid down in the arrangements should be identified.

2.1.3 IPO/PO Arrangements

21.A.4, AMC 21.A.4, 21.A.133(b) & (c), AMC 1 & 2 to 21.A.133(b) & (c), 21.A.165(g)

This paragraph should give details of the establishment of effective links between the production organisation when acting as an IPO and a sub-tier supplier that also holds a POA and has not established an arrangement with the appropriate design organisation. An “effective link“ means, that the design approval holder (DAH) must have agreed to the IPO acting as an intermediary and this acceptance must be visible to the POA. An example could be an email from the DAH or contract. The DAH is that organisation that holds the TC or STC.

Where the POA is receiving data from the IPO it is its responsibility to ensure the DAH has authorised the IPO to deal with issues such as non-conforming items and direct delivery etc.

A sample intermediary production arrangement template is included in Section 3 of this user guide.

The personnel who are responsible for the establishment of these arrangements as well as those who are responsible for the control of the commitments laid down in the arrangements should be identified.

2.1.4 Monitoring of DO/PO Arrangements and Associated SADDs

AMC 21.A.4

All customer orders will be subject to a defined contract review process and will be assessed to ensure the work is within the scope of approval and that an appropriate interface arrangement with the responsible design organisation is in place. Additionally, that the production organisation holds a valid statement of approved design data (SADD) compliant with AMC 21.A.4.

In addition, this paragraph should give a general description of the regular periodic review of the currency of all DO/PO and IPO/PO arrangements and associated SADDs held by the organisation.

2.1.5 Incorporation of Airworthiness Data into Production Data

GM 21.A.131, 21.A.145(b)(2) and (3)

This paragraph should give a general overview of the processes and procedures used for ensuring that applicable airworthiness data is correctly incorporated into production data and how it is kept up to date. The processes and procedures for ensuring applicable airworthiness data is correctly incorporated into production data shall be defined and documented.

2.1.6 Concessions

21.A.139(a) 21.A.165(c)

Any non-compliance with design data precludes the release of the item on an CAA Form 1 Authorised Release Certificate as the certificate states “Certifies that the items identified above were manufactured in conformity to approved design data/non-approved design data”. In order to be able to release the item it must conform with the design data, this can be achieved by either:-

- Reworking the item
- Amending the design data

Only the responsible design organisation can amend the design data and this usually takes the form of a concession (i.e. an additional piece of design data specific to an individual item, not actually amending a drawing). A concession is only valid if approved under the responsible design organisations procedures. If neither of the two options is appropriate the item is scrapped.

This paragraph should give details of the concession request process considering these points and make it clear that the approval of the design organisation is necessary for the implementation of a concession. The concession request process shall be defined and documented.

2.2 Acceptance & Inspection of Incoming Materials Parts and Equipment

21.A.139(b)(1)(iii), 21.A.139(d)(2)(iii)

This chapter should give a general overview of the goods receipt inspection process used.

The receipt, inspection and processing of materials, parts, and equipment into the organisation shall be carried out in accordance with defined documented procedure.

All incoming items will be inspected for compliance with the purchase order requirements and applicable design data. This includes items supplied new or used by TCH, primary production organisation or customer.

Records will be kept, to ensure that all parts and materials are traceable back from the point of use to source via its release documentation. For materials this means the primary material manufacturer.

2.3 Stores Procedures

21.A.139(b)(1)(iii), (iv), (xiii), 21.A.139(d)(2)(iii), (iv), (xiii),

The control of storage, identification and release of materials and parts to production shall be in accordance with a defined documented procedure. This chapter should give a general overview of the procedure taking into account:

- Materials shall be clearly identified and stored in designated identified locations.
- Components and parts shall also be stored in designated locations, clearly identified, and segregated from materials.
- The environmental conditions within storage areas shall be monitored and maintained to appropriate standards.

The control of materials and parts throughout the Company, from receipt, through storage and issue, to use and dispatch, will be controlled by the use of appropriate systems.

2.4 Identification and Traceability

21.A.139(b)(1)(iv), 21.A.139(d)(2)(iv)

This chapter should detail an overview of the methods used to ensure identification and traceability of parts and material in stock, in completed parts or in parts in process. These methods shall take into account the part marking requirements detailed in Part 21 Subpart Q.

2.5 Tools, Jigs and Test Equipment

21.A.139(b)(1)(vii), 21.A.145(a), GM 21.A.145(a), 21.A.139(d)(2)(vii)

This chapter shall describe the procedures related to the receipt, acceptance, control, maintenance, modification, and calibration of the production tooling, jigs, fixtures, and test equipment.

2.5.1 Acceptance of Tools, Jigs and Test Equipment

Procedure for acceptance of tools, jigs and test equipment into the organisation shall be defined and documented. This paragraph shall give general details of the procedure.

Tools, jigs, fixtures and test equipment to be used for production purposes will be those specified by the approved design data except where an appropriately qualified equivalent is available and/or acceptable.

2.5.2 Calibration and Control of Tools, Jigs, and Test Equipment

21.A.139(b)(1)(vii), 21.A.145(a), GM 21.A.145(a)

This paragraph shall describe the procedures related to the maintenance, calibration and control of production tooling, jigs, fixtures, and test equipment in general terms.

Tools, jigs, fixtures, and test equipment subject to periodic servicing and/or calibration will be uniquely identified with details of servicing/calibration expiry recorded both in the controlling system and on the item involved. The initial inspection and calibration period will initially be set in accordance with manufacturers or design authority's recommendations. Historical data will be maintained to allow for variation to the recommended periods.

Tools, jigs, fixtures, production and test equipment must be calibrated in accordance with procedures compliant with ISO 17025 that demonstrates that they comply with predefined precision and accuracy criteria. The precision and accuracy criteria must be such that the organisation is able to demonstrably determine that each production item conforms to the applicable design data and is in a condition for safe operation.

The description given should include in general terms:

- The method/s used to inform staff of impending expiry of serving/calibration periods.
- Inspection, servicing and calibration programme / equipment and calibrated tool register.
- Establishment of inspection, servicing and calibration frequencies.
- Person/department responsible for the maintenance and/or calibration programmes, the register, the follow-up, time period and frequencies (link between departments if necessary).
- Identification of servicing / calibration due dates.
- Management of personal or loaned tooling and test equipment
- Process of verifying the calibration results meet the predefined precision and accuracy criteria.
- Procedure for tooling, jigs, fixtures, and test equipment found out of tolerance during calibration (e.g., feedback to production, safety assessment, process to identify affected components/products and to inform the customer for further actions in case of safety concerns, etc.)
- Procedures for control and deposal of non-conforming tooling, jigs, fixtures, and test equipment.

Outside parties conducting calibration services should be controlled in accordance with chapter 3.3 unless the outside party is the OEM of the tool or equipment, or the outside party is accredited in accordance with ISO 17025 and reports the results of the calibration on an ILAC/UKAS certificate.

2.5.3 Use of Tools, Jigs and Test Equipment

21.A.145(a), GM 21.A.145(a)

The use of tools and equipment by staff shall be defined and documented and described in general terms within this paragraph.

All tools and equipment used in the workshop will be stored and held on site, under the control and protection of the production staff. When not in use, tools and equipment shall be held in an environment suited to the prevention of deterioration and damage.

Staff required to use complex or specialist items of tooling or equipment must demonstrate competency in the use of such tooling/equipment.

2.6 Production Processes

21.A.139(b)(1)(v)

This chapter shall describe in general terms the processes and procedures used to control the manufacture of parts. The processes and procedures shall be fully defined and documented, making clear the various responsibilities and activities of staff involved in the production processes.

- Establishment of the production process that produces parts that conform to the design data.

- Verification that the production process continues to produce parts that conform to the design data.
- Processes and procedures for despatch and receipt of items that are processed by outside parties.
- Control of fixed/frozen production practices (Critical Part production procedures).
- Roles and responsibilities of staff involved in production.

2.7 Inspection and Test

21.A.139(b)(1)(vi)

The inspection and test processes and procedures that confirm manufacturing processes are with in established control limits as well as those that confirm items are compliant with the applicable design data shall be defined and documented. These procedures as a minimum must address:

- Clear technical instructions to complete the inspection/test so that the appropriate accurate results may be obtained.
- Clear definition of the target of the inspection/test.
- The qualification/competency level required of the operative to perform the inspection/test.
- Recording of the inspection status of the target item.
- Individual/department responsible for authoring and approval.

This chapter shall give the general description of the control of inspection and test activity within the POA.

2.8 Control of Non-Conforming Items

21.A.139(b)(1)(viii)

The procedures and processes used to prevent the release of identified non-conforming items should be defined and documented. This chapter should give a general description of these procedures and processes.

The procedures and processes should address:

- Identification of the items.
- Storage of the items, this should be within a designated controlled location.
- Control of the designated storage location.
- Assessment of non-conformity.
- Recording of results of assessment.
- Actions to be taken to address non-conformity.
- Disposal of items declared as scrap.

2.9 Record Completion

21.A.139(b)(1)(x), 21.A.165(d)

This chapter shall give details of the processes and procedures used to record all work carried out during production of a product part or appliance. These records shall be sufficiently detailed to demonstrate that the production item conforms to the applicable design data at the time of release.

2.9.1 Control of Electronic/Computer Records

This chapter shall refer to the computer systems used to manage and/or record information regarding production activities conducted during the manufacture of a product, part or appliance.

- Description of the computer records system in use and relate objectives
- Information retrieval
- Verification of Back-up systems (frequency, means, and delay) and second site storage (frequency, means and delay)
- Security and safeguards to unauthorised access, refer to FAA AC 21-43A 4.3

2.10 Handling, Storage and Packing

21.A.139(b)(1)(xiii)

The handling, storage and packing processes and procedures for raw materials, consumable materials, tooling, inspection and test equipment, in process items, non-conforming items, and finished items shall be defined and documented. These processes and procedures should address as a minimum, prevention of damage/degradation, storage environment control, storage life limit control, continuity of identification/traceability.

This chapter should give general description of the handling, storage and packing controls established by the POA.

2.11 Off-Site/Out Located Work

21.A.139(b)(1)(xv)

Where an organisation has the need to undertake production activity away from an approved location the control this activity shall be defined and documented within the quality system. The procedure should address:

- Planning
- Working environment assessment
- Execution (including tool control)
- Recording
- Inspection
- Certification

Personnel involved should also be described regarding competency and authorisation through the Quality System.

Off-site/out located work could be required for rectification on an item (e.g., after incorporation of a design change, correction of a defect, inspection or test), completion of shortages etc.

A register of off-site working activity should be established and maintained.

This chapter should give general details of the off-site working procedure.

2.12 Technical Records

21.A.139(b)(1)(x), 21.A.165(d), (h)

This chapter should give an overview of the procedures and internal requirements for the archiving of technical records, that is those records that demonstrate the items produced conformed to the applicable design data relevant at the time of release. The procedure should address as a minimum.

- The data/records required to be retained.
- Security of the record/data.
- Ability to recall and read the record/data.
- Period of retention.
- The personnel responsible for record retention.
- Flow down of requirements to outside parties.

If the archiving is sub-contracted to an outside party then details of how continuity of the archive is to be included when the contract is terminated for any reason, including liquidation of the sub-contractor.

2.13 Control and Handling of Critical Parts

21.A.139(b)(1), 21.A.805

This chapter should give details of how the special requirements for the control and handling, within production environment, of parts designated by the TCH as Critical Parts are obtained and implemented. The control and handling processes and procedures for critical parts within the production organisation must be defined and documented. These procedures need to consider:

- Review and implementation of production section of the DOA's critical parts plan.
- Establishment, implementation and change of frozen manufacturing plans / fixed practice approval.
- Identification of critical parts both physically and within the production data.
- Training of staff with regard to handling of critical parts.

2.14 Release to Service

21.A.139(b)(1)(xii)

The processes and procedures used for the release of aircraft, products, parts and appliances to service, under the privileges detailed in 21.A.163 (b), (c) and (e), shall be defined and documented. This chapter shall give a detailed overview of these procedures.

2.14.1 Aircraft

21.A.163(b) and (e), 21.A.165(c)(1) & (3), 21.A.165(i),

In the case of complete aircraft a statement of conformity (CAA Form 52) is issued by the POA to obtain an aircraft certificate of airworthiness and a noise certificate without further showing.

A statement of conformity is issued when it is determined by the POA that each completed aircraft conforms to the type design and is in condition for safe operation, and additionally, in the case of environmental requirements determine that the completed aeroplane is in compliance with the applicable CO_2 emissions requirements on the date its first certificate of airworthiness is issued.

The POA must define and document the processes and procedures for determination of the above and the items listed in GM No 3 to 21.A.165(c) Obligations of the holder – Condition for safe operation.

This chapter should give general details of the processes and procedures for release of complete aircraft to service.

2.14.1.1 Issue of Permit to Fly

21.A.139(b)(1)(xvii), 21.A.165(j), 21.A.711(c) & (e)

Part 21 allows a production organisation to issue a Permit to Fly for an aircraft it has produced when it is controlling the aircraft configuration under its POA and is attesting conformity with the appropriate design conditions. To obtain and exercise this privilege, 21.A.163(e), the processes and procedures governing the issue of a Permit to Fly shall be defined and documented. These procedures will address the requirements set out in Part 21 Subpart P:

The procedures also must address:

- Establishing and justifying the flight conditions in accordance with 21A.708 (including completion of CAA Form 18B).
- How conformity with approved conditions is made, documented and attested.
- The preparation and issuance of the permit to fly (including completion of CAA Form 20b).
- Authorised signatories.
- Interface with the responsible Aviation Authority for flights outside the UK.

A flight-test operations manual (FTOM) is required.

2.14.1.2 Pre-delivery Aircraft Maintenance Procedures

21.A.139(a), 21.A.163(d), 21.A.165(c)(1) & (3), 21.A.165(i),

Procedures to maintain a new aircraft that an organisation has produced shall be established and documented for this maintenance and the issue a certificate of release to service (CAA Form 53) in respect of that maintenance.

The POE and the FTOM shall include or reference these procedures.

In accordance with AMC 21.A.163(d) any maintenance activities must be recorded in the Aircraft Log Book. It must be signed by certifying staff for attesting the conformity of the work to the applicable airworthiness data.

Maintenance of parts and appliances required prior to the issue of the aircraft statement of conformity can only be carried out under the control of the aircraft manufacturer's POA.

AMC 21.A.163(d) also addresses maintenance of components outside the POA capability. Such maintenance activity outside the capability of the Aircraft POA holder may still be accomplished under the production approval of the original release organisation. In such circumstances the engine(s), propeller(s), parts and appliances will require re-release in accordance with GM 21.A.163(c) (CAA Form 1). The programme for this maintenance activity is still managed by the aircraft manufacturer's POA.

This chapter should give general details of the processes and procedures for the control of aircraft maintenance prior to release to service.

2.14.2 Products, Parts and Appliances

21.A.163(c), AMC 1 to 21.A.163(c), AMC 2 to 21.A.163(c), 21.A.165(c)(2) & (3), 21.A.165(c)(4)

The ARC for products, parts and appliances is a CAA Form 1. Certifying Staff will ensure that the manufactured item has been completed in accordance with the applicable design data; the procedures specified in this exposition and that the accompanying records are complete, before signing the CAA Form 1. Only personnel authorised as Certifying Staff may sign the ARC. A personal authorisation stamp may also be applied.

The procedure detailing the actions of Certifying Staff when completing a CAA Form 1 should address where applicable:

Qualification for a CAA Form 1 release:

- That the subject parts qualify for release on an CAA Form 1:
- That the subject part number(s) is covered by current POA scope
- That the subject part number(s) is covered by a DOA/POA arrangement
- That the subject part number(s) is permitted for direct delivery to end users if applicable
- Contract / Purchase Order requirements have been addressed
- If producing a part in accordance with foreign approved design data the requirements of bilateral agreements or working arrangements are addressed

Certification of conformity to applicable design data.

- That the subject part number(s) are in compliance with the applicable production documents and applicable design data
- That the applicable design data is approved (e.g. via TC/STC/UKTSO or minor change) for airworthiness purposes or will be subject to such an approval for conformity purposes
- Completeness of all specified and executed production operations
- Approval and execution of concessions - those concessions that affect fit, form or function shall be stated in block 12 of the CAA Form 1
- Valid change status (modification, amendment) is recorded
- That the part (and packaging where applicable) are appropriately identified
- Compliance with applicable airworthiness directives

In a condition for safe operation:

- Compliance with specified storage terms and conditions (life limited items/time controls are respected, tamper, alteration, deterioration)
- Completeness of specified tests, (e.g. production acceptance tests and available test records)
- Visual inspection for damage, corrosion, leaks, etc.
- inspections for foreign objects

Issue a release certificate.

- That the CAA Form 1 is completed correctly. Refer to Appendix 1 to Part 21 – Completion Instructions

- Sign the CAA Form 1 when satisfied that the part(s) conform to the applicable design data and that the parts are in a condition for safe operation.
- Where a computer generated signature and electronic exchange of the CAA Form 1 signature is to be used refer to AMC No 1 to 21.A.163(c)

The CAA Form 1 shall be restricted to one page.

For recertification and correcting errors on a certificate refer to Appendix 1 to Part 21

Where the organisation holds privileges in addition to release of the CAA Form 1 these should be addressed in a similar manner.

2.15 Occurrence Reporting

21.A.165(e) & (f)

This chapter shall give details of the established internal occurrence reporting system as well as the system used for reporting reportable occurrences.

2.15.1 Internal Occurrence Reporting System

21.A.165(e)

This paragraph should give details of the internal occurrence reporting system the system should include reporting by outside parties, the details should include:

- Collection method/s.
- Recording.
- Assessment, analysis, and where necessary investigation of reports.
- Method of feedback of analysis results to reporter, if known.
- Persons/departments responsible for collection, assessment, analysis, investigation, and recording of reports.

2.15.2 Reportable Occurrences Reporting System

21.A.165(f), Article 4 of UK Reg (EU) No 376/2014 Mandatory Occurrence Reporting

This paragraph should give details of the procedure for reporting all cases of products parts or appliances that have been released by the organisation that are potentially non-compliant with the applicable design data to the TCH or DOH and the customer if a POA. If the non-compliance could lead to a potential unsafe condition, then the occurrence must also be reported to the CAA.

The details should include:

- The method of reporting.
- The person/department responsible for reporting.
- Reporting timescales.
- Minimum pertinent information.

Part 3 – Quality Management System

3.1 Management System Documents

This chapter should give general details of the processes and procedures used to draft, approve, issue, maintain, and amend management system documents. It should name the individual and/or department that is responsible for issuance of the documents.

3.1.1 Document Distribution

21.A.139(a), 21.A.165(a)

This paragraph should give general details of the methods used to distribute management system documents to relevant staff. This should include the mechanisms used to ensure the relevant staff are made aware of the document content and amendments.

3.1.2 Document Issue, Approval, and Amendment

21.A.139(a), 21.A.139(b)(1)(i), 21.A.165(a), 21.A.139(d)(2)(i)

This paragraph should give general details of the processes and procedures controlling the drafting, approval, issue, periodic review and amendment of management system documents. This should include the personnel responsible for approval and periodic review of the documents.

3.2 Quality Assurance Monitoring

21.A.139(b)(1)(xiv), 21.A.139(2), GM 1 to 21.A.139(b)(2), GM 2 to 21.A.139(b)(2)

This chapter should give general details of the independent quality assurance function that monitors compliance of the organisation documented quality management system as well as determining it is effectively implemented and maintained. It should detail the methods by which the system is monitored, how non-compliances classified, issued, and resolved, as well as details of the methods used to feedback results to the Accountable Manager and nominated post holders.

The chapter should also include, general details of the system used for process and product audits.

3.2.1 System Audits

This paragraph should give general details of the planning, implementation, and maintenance of audit programmes of the quality management system, it should include frequency, methods, responsibilities, planning requirements, and reporting which should take into account the importance of the processes concerned, changes affecting the organisation as well as results of previous audits.

Additionally, details of auditor selection with consideration of ensuring objectivity and impartiality of the audit process should be included.

3.2.2 Process/Product Audits

General details of the planning, implementation of process and product audits including the selection of audit subject, frequency, methods, responsibilities, planning requirements, and reporting which should take into account the criticality of the processes and manufactured items as well as changes affecting the manufacturing processes.

Details of auditor selection considering technical competency as well as ensuring objectivity and impartiality of the audit.

3.2.3 Audit Corrective Action Procedure

21.A.158, CAP 1760

This paragraph should detail the timescales associated with development and implementation of corrective actions for identified nonconformity, as well as the escalation procedures if the timescales are not met. Additionally, general details of how the corrective action process for each identified nonconformity is monitored and who is responsible for monitoring the corrective action process.

The paragraph should give general details of the processes and methods used by the organisation to develop effective corrective actions for identified noncompliance. The details should address:

- establishment of a problem statement,
- identification the risks associated with the identified noncompliance,
- development of containment actions,
- identification of root cause and associated contributory factors,
- development, implementation and monitoring of corrective actions.

3.2.4 Quality Management System Review

The Accountable Manager and nominated post holders should review, at planned regular intervals, the quality management system with regard to its continued compliance with regulations as well as its suitability and effectiveness.

Review planning and agenda should consider:

- Status of actions from previous management reviews
- Changes in external issues such as regulation amendments
- Data on the performance and effectiveness of the quality management system in maintaining compliance with the regulations, such as:
  - Feedback from customers
  - Process performance and conformity of manufactured items
  - Nonconformities and corrective actions
  - Monitoring and measurement results
  - Internal and external audits
  - Performance of outside parties
  - Adequacy and capability of resources.

3.3 Supplier Evaluation & Control Procedure

21.A.139(b)(1)(ii), AMC 1 to 21.A.139(b)(1)(ii), AMC 2 to 21.A.139(b)(1)(ii) and CAP 562 Leaflet C-180
21.A.8(b), 21.A.139(d)(2)(ii),

The POA holder is responsible for determining and applying acceptance standards for physical condition, configuration status and conformity of not only of products, parts, and appliances manufactured inhouse but also those supplied by outside parties, whether to be used in production or delivered to customers as spare parts. This responsibility also includes buyer furnished equipment, or customer supplied items.

To discharge this responsibility should determine the controls to be applied to parts, appliances, processes, and services supplied by outside parties to ensure conformity of parts and appliances

released to design data. In addition, the quality management system needs an organisational structure and procedures to adequately control external suppliers of parts, appliances, special processes, and services.

This chapter shall detail the processes / techniques, as appropriate, for evaluation, selection, monitoring of performance and re-evaluation of outside parties based on their ability to provide parts, appliances, processes, and/or services in accordance with identified and specified requirements that ensure conformity to design data The detail should include as necessary:

- Qualification and auditing of supplier's quality system.
- Evaluation of supplier capability in performing all manufacturing activities, inspections and tests necessary to establish conformity of parts or appliances to type design.
- First article inspection, including destruction as necessary, to verify that the article conforms to the applicable data for new production line or new supplier.
- Validation and control of special processes.
- Supplier risk assessment and rating system that reflects the quality performance and reliability of the suppliers.
- Any additional work, tests or inspection which may be needed for parts or appliances which are to be delivered as spare parts and which are not subjected to the checks normally provided by subsequent production or inspection stages.
- Detail how any delegations are managed and controlled. Such delegations are to be indicated / listed on the supplier list, Chapter 1.12.

Where an organisation is part of a wider group, then the outside party surveillance, performance monitoring and oversight plans may be captured at a group level, in such instances the arrangements and feedback methods are to be detailed in this paragraph.

Any arrangements in place to utilise other parties for supplier assessment and surveillance are to be detailed.

Where an Organisation relies on significant subcontractors to be able to support its scope of approval, the CAA may require that these organisations to be separately listed in the POE. An intention to change such a significant subcontractor may be considered a significant change under GM 21.A.147a and may need to be approved by the CAA.

3.4 Staff Competency, Qualification and Authorisation

21.A.139(b)(1)(xi), 21.A.145(a), GM 21.A.145(a)

This chapter shall give a general description of the processes and procedures controlling competency demonstration and authorisation of staff. These processes and procedures shall be defined and documented. The procedure shall address

- The methods used to demonstrate competency.
    - Training
    - Experience
    - Examination
    - Job performance assessment
    - Physical examination for example eyesight (all near vision tests should be conduction in accordance with standard ISO 184900) and hearing.

- Determination of competency standard for each role within the approved production organisation.
- Documentation of the competency assessment.
- Authorisation of staff to perform unsupervised production activities.
- Monitoring of staff competency.
- Actions to be taken when assessment is not satisfactory.
- Retention of competency assessment documentation.
- Continuation training.
- Personnel/Departments responsible for competency assessment, competency monitoring, staff authorisation and staff competency record retention.

Competence should be defined as a measurable skill or standard of performance, knowledge and understanding, taking into consideration attitude and behaviour.

3.4.1 Special Processes/Task Operatives

21.A.145(a), GM 21.A.145(a)

Personnel who undertake specialised production activities shall be appropriately qualified in accordance with officially recognised standards or to a procedure and a standard agreed by the CAA. Recognised standards:

ISO 24394 Welding for aerospace applications. Qualification test for welders and welding operators. Fusion welding of metallic components.

EN 4179 Aerospace series. Qualification and approval of personnel for non-destructive testing

Examples of specialised production activities:

- Manufacturing engineering
- Inspection via specialist equipment
- Machining (non CNC machining)
- Chemical analysis
- Tool Calibration
- Composite Layup

3.4.2 Certifying Staff

21.A.145(a), 21.A.145(d), AMC 21.A.145(d)(1)

This paragraph should give details of the processes and procedures used to selected, qualify, authorise and monitor performance of Certifying Staff. The processes and procedures shall be defined and documented. The procedures shall address as a minimum:

- Knowledge, background and experience requirements
- Specific training, examination and competency demonstration requirements
- Evidence of authorisation and scope of authorisation
- Authorisation issue and renewal

- Continuation training
- Performance monitoring
- Actions to be taken when performance is not satisfactory.
- Qualification and authorisation of subcontractor's personnel (if applicable)
- Approval of non design related flight conditions and Issue of Permit to Fly (if applicable)

3.4.3 Auditors

21.A.145(a), GM 21.A.145(a), 21.A.145(c)(3) GM No 1 to 21.A.139(b)(2)

This paragraph should give details of the processes and procedures used to selected, qualify, authorise and monitor performance of Auditors. The processes and procedures shall be defined and documented. The procedures shall address as a minimum:

- Required experience and competence (professional background and minimum number of audits performed under supervision)
- Required training including audit techniques, Root Cause/Corrective Action, Regulation
- Continuation training requirements
- Specific experience and/or technical training for authorisation to audit specific technical functions.
- Scope of authorisation
- Authorisation issue, extension, renewal or withdrawal procedures
- Independence of quality audit personnel
- Allocated resource (if not full-time employed).

Part 4 – Documents

4.0 Approval Certificate

A copy of the Approval Certificate should be included in this chapter.

4.1 CAA Form 1 Proforma

A copy of the approved organisation's CAA Form 1 proforma.

4.2 Part 21 POA Compliance Checklist.

A completed and current Part 21 POA Compliance Checklist should be either referenced or included in this chapter.

4.3 NDT Written Practice.

If NDT is relevant to the approved scope of work the NDT Written Practice should be either referenced or included in this chapter.

4.4 Flight Test Operations Manual.

If the approved organisation conducts flight test the Flight Test Operations Manual should be either referenced or included in this chapter.

4.5 Sample of Documents.

This chapter must list all the documents and forms in use by the organisation for the purpose of controlling production. Each form shall be uniquely identified with a number and revision date to allow traceability of changes.

EXAMPLE:

- DO/PO Arrangement Template
- IPO/PO Arrangement Template
- Contract Review Form
- Material tags: Quarantine and Scrap labels.
- Critical Part identification labels.
- CAA Form 18B
- CAA Form 52
- CAA Form 53
- Audit Report Form
- NCR Route Cause Corrective Action Form
- Personnel Training Record
- Personnel authorisation document
- Concession Application and Approval

4.6 List of List of Significant Sub-Contractors

This chapter should list all the Significant Subcontractors performing production activities under of the approved production organisation quality system. Definition of a Significant Subcontractor is given in CAP 562 Leaflet C-180.

4.7 List of Outside Parties

21.A.139(b)

This chapter should list or give references to lists of all outside parties that undertake production activities on behave of the approved production organisation.

4.8 List of DO/PO & IPO/PO Arrangements

This chapter should list all DO/PO and IPO/PO arrangements along with the corresponding SADD.

Section 3 - Appendices

1.0 IPO/PO Arrangement Template

<table>
<tr><td>IPO/PO ARRANGEMENT
in accordance with 21.A.133(b) and (c)</td><td>Ref: XXXX
Issue: XX</td></tr>
<tr><td>The undersigned agree on the following commitments:</td><td>Relevant interface procedures</td></tr>
<tr><td>The Intermediary Production Organisation [NAME] takes responsibility to
➢ assure correct and timely transfer of up-to-date applicable design data (e.g., drawings, material specifications, dimensional data, processes, surface treatments, shipping conditions, quality requirements, etc.) to the production organisation approval holder [NAME]
➢ provide visible statement(s) of approved design data.</td><td></td></tr>
<tr><td>The production organisation approval holder [NAME] takes responsibility to
➢ assist the Intermediary Production Organisation [NAME] in dealing with continuing airworthiness matter and for required actions
➢ assist the Intermediary Production Organisation [NAME] in case of products prior to type certification in demonstrating compliance with certification specifications
➢ develop, where applicable, its own manufacturing data in compliance with the airworthiness data package.</td><td></td></tr>
<tr><td>The Intermediary Production Organisation [NAME] and the POA holder [NAME] take joint responsibility to
➢ establish an effective link showing authorisation from the design approval holder that addresses all elements of AMC No 1 to 21.A.133(b) and (c) Eligibility – Link between design and production organisations.
➢ deal adequately with production deviations and non-conforming parts in accordance with the applicable procedures of the IPO and the production organisation approval holder
➢ achieve adequate configuration control of manufactured parts, to enable the POA holder to make the final determination and identification for conformity.</td><td></td></tr>
<tr><td colspan="2">The scope of production covered by this arrangement is detailed in [DOCUMENT REFERENCE/ATTACHED LIST]</td></tr>
<tr><td colspan="2">The IPO [NAME] acknowledges that the approved design data provided, controlled and modified in accordance with the arrangement are recognised as approved by the competent authority and therefore the parts and appliances manufactured in accordance with these data and found in a condition for safe operation may be released certifying that the item was manufactured in conformity to approved design data and is in a condition for safe operation.</td></tr>
<tr><td colspan="2">Direct Delivery Authorisation:
This acknowledgment includes also [OR does not include] the general agreement for direct delivery to end users in order to guarantee continued airworthiness control of the released parts and appliances.</td></tr>
<tr><td>For the [NAME & Approval Number of the IPO]
Signature:
[NAME in block letters]
Date: dd/mmm/yyyy</td><td>For the [NAME & Approval Number of the POA holder]
Signature:
[NAME in block letters]
Date: dd/mmm/yyyy</td></tr>
</table>