RA 5850 – Military Design Approved Organization (MRP Part 21 Subpart J)

Rationale

The Design Approved Organization Scheme (DAOS) is a mechanism by which the competence of a Design Organization (DO) can be assessed. The use of a non DAOS organization for design services may introduce design errors to the Design. Approval under DAOS is subject to adherence with the established procedures and rules governing the responsibilities and privileges for Military Design Approved Organizations.

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Regulation 5850(1)

Responsibilities of a Design Organization

5850(1) A DO or Co-ordinating DO (CDO) **shall** fulfil the defined design and development responsibilities under their Terms of Approval.

Acceptable Means of Compliance 5850(1)

Responsibilities of a Design Organization

1. For Civilian-Owned or Civilian Operated Air Systems the Air System Sponsor can split Type Airworthiness (TAw) responsibility between the Type Airworthiness Authority (TAA) and a Type Airworthiness Manager (TAM), the TAA **should** provide advice to the Sponsor on the most appropriate split of responsibilities[1]. Dependant on the agreed split of TAw design responsibilities TAM may be read in place of TAA as appropriate throughout this RA.

2. The DO **should** review this RA in its entirety, noting the term DO throughout includes DO, CDO and Air System CDO. Therefore, CDO and Air System CDO may be read in place of DO as appropriate throughout this RA.

3. The DO **should**:

   a. Meet the responsibilities as defined[2].

   b. Maintain its DO Exposition (DOE) in conformity with the Design Management System (DMS).

   c. Ensure that the DOE references the basic working documents within the organization.

[1] Where the Air System is not UK MOD-owned, TAw management regulatory responsibility by either the TAA or TAM needs to be agreed within the Sponsor's approved model; refer to RA 1162 – Air Safety Governance Arrangements for Civilian Operated (Development) and (In-Service) Air Systems, or refer to RA 1163 – Air Safety Governance Arrangements for Special Case Flying Air Systems. Dependant on the agreed delegation of TAw responsibilities TAM may be read in place of TAA as appropriate throughout this RA.

[2] Refer to RA 1014 – Design Organizations and Co-ordinating Design Organizations – Airworthiness Responsibilities.

Acceptable Means of Compliance 5850(1)

d. Determine that the design of Products, Parts, Appliances, Airborne Equipment and Air Launched Weapons (ALW) or changes or Repairs thereof, comply with applicable Airworthiness requirements or contracted specifications and have no feature that can lead to an unsafe condition.

e. Provide to the TAA or Commodity Chief Engineer (CE) associated documentation confirming compliance, and when applicable a Certificate of Design (CofD)[3, 4, 5].

f. Ensure TAA or Commodity CE is provided access to the Design data, including instructions associated with unsafe conditions such as Airworthiness Directives[6] (AD), Service Bulletins[6] (SB) for civil-derived Air Systems, or Special Instructions (Technical) (SI(T))[7] for military designed Air Systems.

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Responsibilities of a Design Organization

4. The role of the DO, CDO or Air System CDO to meet the Airworthiness responsibilities of RA 1014[2] will be established by the TAA.

Regulation 5850(2)

Scheme Inclusion and Approval Award

5850(2) An organization **shall** be included in the DAOS and awarded Approval for a defined range of Products, Parts, Appliances, Airborne Equipment and ALW, only when the organization has been assessed and approved by the Military Aviation Authority (MAA).

Acceptable Means of Compliance 5850(2)

Scheme Inclusion and Approval Award

5. An organization seeking inclusion in the scheme **should** apply using MAA DAOS Form 80, which can be found on the MAA website under Approval Schemes[8], through the MOD sponsor to the MAA.

6. Before a review of the organization's design, development and post-design support arrangements is undertaken, the DO **should** satisfy the MAA that:

a. It is in the interests of MOD to include the organization in the Scheme.

b. The organization holds Quality Management System (QMS) Certification to AS/EN 9100, or to ISO 9001 providing the scope of the Certification covers the proposed DO Terms of Approval.

Guidance Material 5850(2)

Scheme Inclusion and Approval Award

7. Inclusion in DAOS is normally an essential pre-requisite for the award of design and development contracts for Air Systems (including their Products, Parts and Appliances), Airborne Equipment and ALWs. Although it is understood that an organization may wish to bid for a contract, it is the TAA or Commodity CE's responsibility to consider whether, in this case, the organization is capable of holding a DAOS Approval. The DAOS Approval is recognition that the MOD accepts that an organization has demonstrated an appropriate standard of compliance and that a specified performance attribute or objective has been achieved.

8. When evidence presented by the organization demonstrates that it satisfies the requirements of RA 5850, a DAOS Approval will be issued by the MAA.

9. A list of organizations that have been granted Approval is published by the MAA[9].

[3] Refer to RA 5103 – Certificate of Design.
[4] Refer to RA 5820 – Changes in Type Design (MRP Part 21 Subpart D).
[5] Refer to RA 5865 – Repairs (MRP Part 21 Subpart M).
[6] Refer to RA 5805 – Airworthiness Directives and Service Bulletins (MRP Part 21 Subpart A).
[7] Refer to RA 5405 – Special Instructions (Technical).
[8] Refer to https://www.gov.uk/government/publications/design-approved-organization-scheme-daos.
[9] Refer to https://www.gov.uk/government/publications/list-of-maa-approved-organisations.

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Terms of Approval

10. The Terms of Approval will identify the types of design work, categories of Air Systems (including their Products, Parts and Appliances), Airborne Equipment and ALWs for which the designer can operate as a DO, and the functions and duties that the organization is approved to perform. Those terms will be issued as part of the DO Approval.

11. The Terms of Approval encompass the Certificate and Schedule issued by the MAA:

a. The Certificate identifies the approved organization and its primary design location.

b. The Schedule includes:

(1) The scope of work (development, design changes and / or Repair and post design services unless otherwise stated), with any appropriate limitations against which the Approval has been granted.

(2) The categories of Products, Parts, Appliances, Airborne Equipment and ALWs.

(3) Airworthiness and design signatories.

(4) Military Permit to Fly (MPTF) signatories.

(5) Approved TAM.

(6) Privileges that can be invoked by the relevant TAA or Commodity CE by contract.

(7) TAM responsibilities.

(8) Reference to the DOE, provided in accordance with (iaw) RA 5850(4).

Changes to the Terms of Approval

12. An application for a change to the Terms of Approval will be made on MAA DAOS Form 82, which can be found on the MAA website under Approval Schemes[8].

13. Approval of a change in the Terms of Approval will be confirmed by an appropriate amendment of the Certificate and Schedule as appropriate.

Regulation 5850(3)

Design Management System (MRP Part 21.A.239)

5850(3) The DO **shall** demonstrate that it has established and is able to maintain a DMS for the control and supervision of the design, and of design changes, of Products, Parts and Appliances, Airborne Equipment and ALWs covered by the application.

Acceptable Means of Compliance 5850(3)

Design Management System (MRP Part 21.A.239)

14. The DO **should** establish, implement and maintain a DMS that includes a Safety Management System and a design Assurance system with clear lines of responsibility and accountability throughout the organization.

15. The DMS **should**:

a. Correspond to the size of the organization and the nature and complexity of its activities, taking into account the Hazards and the associated Risks that are inherent in these activities; and

b. Be established under the direct accountability of a single manager according to Annex A of this RA.

16. The DMS **should** be such as to enable the organization:

a. To ensure that the design of the Products, Parts and Appliances, Airborne Equipment and ALWs or the design change or Repair solution thereof, comply

Acceptable Means of Compliance 5850(3)

with the applicable Airworthiness requirements or contracted specifications and establish the extent of compliance with the requirements by Inspection, Demonstration, Analysis and Test.

b. To ensure that its responsibilities are properly discharged iaw the RA 5000 series as required by the organization's contract with MOD, and in particular:

(1) The appropriate provisions of RA 5800 series.

(2) The Terms of Approval issued under RA 5850(2).

(3) CofD[3].

(4) Defence Air Safety Management[10].

(5) Configuration Management of design[11].

c. To independently monitor the compliance with, and adequacy of, the documented procedures of the system. This monitoring **should** include a feed-back system to a person or a group of persons having the responsibility to ensure corrective actions are resolved.

17. The DO **should** hold regular design reviews to validate the design proposals, completion of which **should** be checked as part of the DMS.

18. The DMS **should** include an independent verification function to validate that the compliance evidence meets Certification requirements, on the basis of which the organization submits a CofD and associated documentation to the TAA or Commodity CE.

19. The DMS **should** ensure that complete Instructions for Sustaining Type Airworthiness (ISTA)[12] and operating instructions (as required), are provided to the TAA or Commodity CE for the Air System, Product, Part, Appliance, Airborne Equipment and ALWs. The DMS **should** ensure that support and updated ISTA and operating instructions are provided, as required, throughout the life cycle of the Air System.

20. The DO **should** specify and document the manner in which the DMS accounts for the acceptability of the Products, Parts or Appliances, Airborne Equipment and ALWs designed and / or the tasks performed by partners or subcontractors.

Guidance Material 5850(3)

Design Management System (MRP Part 21.A.239)

21. The system monitoring function may be undertaken by the existing Quality Assurance organization when the DO is part of a larger organization. For an explanation of the terms used within a DMS refer to Annex A.

22. The independent verification function is undertaken by Compliance Verification Engineers (CVE), as detailed within Annex A; this is a DO focussed role to ensure compliance with the applicable Certification requirements. This is not to be confused with the role of the Independent Technical Evaluator (ITE), who is appointed by the ►TAA or Commodity CE◄, independent of the DO and will provide independent analysis of the DO evidence.

23. However, when the approved DO is introducing a Minor Change[4] to the Air System under privilege[13] the role of the ITE may, in agreement with the TAA, be satisfied by the independent assessment conducted by the CVE.

[10] Refer to RA 1200 – Air Safety Management.
[11] Refer to RA 5301 – Air System Configuration Management.
[12] Refer to RA 5815 – Instructions for Sustaining Type Airworthiness.
[13] Refer to RA 5850(11): Privileges (MRP Part 21.A.263).

Regulation 5850(4)

Design Organization Exposition

5850(4) As part of the DMS the DO **shall** furnish a DOE to the MAA describing, directly or by cross-reference, the organization, the relevant procedures and the Products, Parts, Appliances, Airborne Equipment and ALWs to be designed, changed or Repaired.

Acceptable Means of Compliance 5850(4)

Design Organization Exposition

24. The DOE **should** be produced and include the content detailed in Annex B. The DOE **should** be concise with sufficient information that is relevant to the Terms of Approval sought by the DO. If the DOE is completely or partially integrated into the company organization manual, identification of the information required by RA 5850(4) **should** be provided by giving appropriate cross references and these documents made available to the MAA.

25. Where any Products, Parts, Appliances, Airborne Equipment or ALWs or any changes to these are designed by partner organizations or subcontractors, the DOE **should** articulate how the DO is able to give, for all Products, Parts, Appliances, Airborne Equipment and ALWs, the Assurance of compliance required by RA 5850(3) above. The statement **should** contain, directly or by cross-reference, descriptions and information on the design activities and organization of those partners or subcontractors, as necessary to establish this statement.

26. To maintain DAOS Approval, the DOE **should** remain an accurate reflection of the organization with ►significant[14]◄ amendment submitted to the MAA for Approval. Amendment submission **should not** be taken to confer that Approval for the DAOS change is in place.

27. To demonstrate compliance with RA 5850(4), a DO with a European Union Aviation Safety Agency (EASA) or a UK Part 21 Subpart J Approval can use this in support of obtaining a DAOS Approval. In these instances, the DO **should** submit the handbook used in their civil Approval providing it covers the required Terms of Approval. In addition, the DO **should** provide the MAA with a supplementary Exposition that identifies the additional measures that have been put in place over and above those set down in its extant civil handbook and associated procedures, to account for the differences in complying with the MAA Regulatory Publications (MRP). For a DO with other civil approvals, a justification **should** be submitted identifying why this is considered appropriate, and advice and agreement **should** be sought from the DAOS branch prior to submission of an application. This **should** demonstrate that the supplemental exposition route is appropriate for the associated Products, Parts, Appliances, Airborne Equipment or ALW.

28. To obtain and maintain Approval of a TAM, a DO **should** submit a Type Airworthiness Management Supplement using the template hosted on the MAA Website.

Organization.

29. The DOE **should** show that:

a. The Head of the DO (HDO) for which an application for Approval has been made, has the direct or functional responsibility for all departments of the organization which are responsible for the design of the Products, Parts and Appliances, Airborne Equipment and ALWs. If the departments responsible for design are functionally linked, the HDO still carries the ultimate responsibility for compliance of the organization with this RA.

b. The HDO has the direct or functional responsibility for all departments of the organization which are involved in the design of changes to design or Repairs to Products, Parts, Appliances, Airborne Equipment and ALWs.

c. An Office of Airworthiness, or equivalent function, has been established and staffed on a permanent basis to act as the focal point for co-ordinating

[14] ►Refer to paragraph 47.◄

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Airworthiness matters; it reports directly to the HDO or is integrated into an independent Quality Assurance organization reporting to the HDO.

d. Person(s) have been nominated to liaise with the Authority and to co-ordinate Airworthiness matters. Their position in the organization **should** allow direct reporting to the manager responsible for design.

e. Responsibilities for all tasks related to the design and Approval of changes to design or Repairs to Products, Parts, Appliances, Airborne Equipment and ALWs are assigned to ensure that all areas are covered.

f. Responsibilities for all tasks related to Design Investigations are assigned in such a way that gaps in authority are excluded.

g. The process for tailoring of the design system is dependant on complexity of design activities.

h. Co-ordination between technical departments and the Head of Independent System Monitoring (HISM) has been established:

(1) To ensure quick and efficient reporting and resolution of difficulties encountered using the DO handbook and associated procedures.

(2) To maintain the DMS.

(3) To optimize auditing activities.

Guidance Material 5850(4)

Design Organization Exposition

30. A template Design Organization Exposition and Type Airworthiness Management Supplement are provided on the MAA website.

Regulation 5850(5)

Approval Requirements (MRP Part 21.A.245)

5850(5) The DO **shall** demonstrate that:

a. Staff in all technical departments are of sufficient numbers and experience and have been given appropriate authority to discharge their allocated responsibilities.

b. There is full and efficient coordination between departments and within departments in respect of Airworthiness.

Acceptable Means of Compliance 5850(5)

Approval Requirements (MRP Part 21.A.245)

General

31. The DO **should** ensure that the accommodation, facilities and equipment are adequate to enable the staff to satisfy the Airworthiness requirements or contracted specifications for the Product, Part, Appliance, Airborne Equipment and ALWs.

32. The data submitted iaw RA 5850(4) **should** show that sufficient skilled personnel are available and suitable technical and organizational provisions have been made for carrying out the Design Investigation[15] defined under RA 5850(3).

Personnel

33. The DO **should** show that the personnel available to comply with this RA are, due to their special qualifications and number, able to provide Assurance of the design, design change or Repair of Products, Parts, Appliances, Airborne Equipment and ALWs, as well as the compilation and verification of all data needed to meet the applicable Certification Specifications.

34. Evidence of their qualifications and experience **should** be documented for the persons who accept the duties defined by the following roles:

[15] The term 'Design Investigation' means the tasks of the organization in support of the Military Type Certificate (MTC) or other Design approval processes necessary to show and verify and to maintain compliance with the applicable Certification Specifications.

Acceptable Means of Compliance 5850(5)

a. Chief Executive. A statement of the qualification and experience of the Chief Executive is normally not required unless they are also filling one of the other specified roles (paragraphs 34b-e).

b. HDO. ►The position of HDO, due to the nature of the role in the DO, can also hold additional roles such as the TAM where clear independence, sufficient capacity and clear separation of the responsibilities can be demonstrated.◄

c. Head of Airworthiness (HoA).

d. HISM. The position of the HISM, due to the nature of the role in independent system monitoring, **should not** be permitted to hold additional roles such as ►TAM,◄ HDO, HoA or CofD signatory.

e. CVE.

f. TAM.

35. The credentials of the, HDO, HoA, HISM and TAM **should** be provided to MAA using MAA DAOS Form 4.

36. Anyone who has authority to sign the CofD, or MPTF (Development) within the DO **should** also provide the MAA with a MAA DAOS Form 4.

37. For the CVE, no individual statement is needed. CVEs **should** be selected by the DO based on their knowledge, background and experience as defined in the DOE. When necessary, complementary training **should** be established to ensure that CVEs have sufficient background and knowledge in the scope of their authorization.

38. The DO **should** maintain a record of the CVE personnel, which includes details of the scopes of their authorizations. The CVE personnel **should** be given reasonable access on request to their own records. As part of its investigations, MAA **should** have the right to access the data held in such a system.

39. Where a TAM holds other roles in the DO, independence **should** be demonstrated.

40. The DO **should** maintain a record of anyone who has authority to sign the Flight Clearance Note for Non-Production Standard Propulsion Systems in support of a MPTF (Development)[16]. As part of its investigations, the MAA **should** be given access to the data held in such a system.

Technical

41. The Chief Executive **should** provide the necessary resources for the proper functioning of the DO.

42. The DO **should** have access to:

a. Workshops and production facilities which are suitable for manufacturing prototype models and test specimens.

b. Accommodation and test facilities which are suitable for carrying out tests and measurements needed to demonstrate compliance with the applicable Certification Specifications.

Guidance Material 5850(5)

Approval Requirements (MRP Part 21.A.245)

Technical

43. The test Facilities may be subjected to additional technical conditions related to the nature of the tests performed.

44. Staff will be suitably qualified and with commensurate levels of experience appropriate for the role they have been assigned.

45. For smaller DOs, certain roles within the DO may be combined. Combinations of responsibilities are acceptable where:

[16] Refer to RA 5880 – Military Permit to Fly (Development) (MRP Part 21 Subpart P).

Guidance Material 5850(5)

a. The role of the HDO may be fulfilled by the Chief Executive of the legal entity;

b. The HDO and the HoA are the same person, provided that the person has the competence to fulfil both functions;

c. The role of the HISM is an external person for all or part of the role;

d. A part-time HoA, provided that the person is directly involved in the DO, and not by an agreement between two DOs, and provided that the availability of the person ensures that response times will be adequate.

Regulation 5850(6)

Changes in Design Management System (MRP Part 21.A.247)

5850(6) After the issue of a DO Approval, each change to the DMS that is significant to the showing of compliance or to the Airworthiness of the Product, Part, Appliance, Airborne Equipment and ALWs **shall** require Approval by the MAA.

Acceptable Means of Compliance 5850(6)

Changes in Design Management System (MRP Part 21.A.247)

46. An application for Approval of a change to the DO **should** be made using MAA DAOS Form 82 and submitted to the MAA. Before implementation of the change the DO **should** demonstrate to the MAA, on the basis of submission of proposed changes to the DOE, that it will continue to comply with this RA after implementation.

Guidance Material 5850(6)

Changes in Design Management System (MRP Part 21.A.247)

Significant changes in the DMS

47. In addition to a change in ownership, the following changes to the DMS will be considered as 'significant' to the showing of compliance or to the Airworthiness of the Products, Parts, Appliances, Airborne Equipment and ALWs:

a. **Organization**

(1) Change in the industrial organization (partnership, suppliers, design work-sharing) unless it can be shown that the independent checking function of the showing of compliance is not affected.

(2) Change in the parts of the organization that contribute directly to the Airworthiness (independent checking function, Office of Airworthiness (or equivalent)).

(3) Change to the independent monitoring principles.

b. **Responsibilities**. Change of the management staff assessed for Airworthiness competence:

(1) HDO;

(2) HoA;

(3) HISM;

(4) Change of CofD or MPTF signatory;

(5) Or, new distribution of responsibilities affecting Airworthiness.

c. **Procedures**. ►Change to the principles of procedures related to:◄

(1) ►The design Certification.◄

(a) ►◄

(b) ►◄

(c) ►◄

(d) ►◄

(e) ►◄

(f) ►◄

(g) ►◄

Guidance Material 5850(6)

(h) ►◄

(i) ►◄

(j) ►◄

(2) ►The classification of changes and Repairs as Major or Minor[4].

(3) The management of Major Changes and major Repairs.

(4) The Approval of the design of Minor Changes and minor Repairs[13].

(5) The issue of information and instructions.

(6) Documentary changes to the Aircraft Flight Manual.

(7) Type Airworthiness.

(8) The configuration control, when Airworthiness is affected.

(9) The acceptance of design tasks undertaken by partners or subcontractors iaw RA 5850(4).

(10) MPTF (Development).◄

d. **Resources**. ►Substantial change in the number and / or experience of staff.◄

(1) ►◄

Regulation 5850(7)

Investigations and Inspections (MRP Part 21.A.257)

5850(7) The DO **shall** make arrangements that allow the MAA to make any investigations, inspections, including investigations of partners and subcontractors, or review any report necessary to determine compliance with this RA.

Acceptable Means of Compliance 5850(7)

Investigations and Inspections (MRP Part 21.A.257)

48. Arrangements **should** be made to allow the MAA to make investigations of the DO including partners, subcontractors and suppliers. This includes assisting and co-operating with the MAA in performing inspections and Audits conducted during initial assessment and subsequent Assurance.

Guidance Material 5850(7)

Investigations and Inspections (MRP Part 21.A.257)

49. Assistance to the MAA includes all appropriate means associated with the facilities of the DO to allow the MAA to perform these inspections and Audits, such as a meeting room and office support.

Regulation 5850(8)

Failures, Malfunctions and Defects

5850(8) The DO **shall** ensure that a robust process is in place for collecting, investigating and analyzing reports of and information related to failures, malfunctions and defects, as identified by themselves, their partners or subcontractors.

Acceptable Means of Compliance 5850(8)

Failures, Malfunctions and Defects

Failures, Malfunctions and Defect Reporting

50. The DO **should** make appropriate arrangements to report to the TAA or Commodity CE any failure, malfunction, defect or other occurrence related to an Air System, Product, Part or Appliance, Airborne Equipment and ALW and which has resulted in or may result in an unsafe condition.

51. The DO **should** ensure they have a system in place for the management and tracking of failure, malfunction and defect reporting for their Air System, Product, Part or Appliance, Airborne Equipment and ALW that is agreed with the TAA or Commodity CE.

Acceptable Means of Compliance 5850(8)

52. The DO **should** notify the TAA or Commodity CE of any potential need for a restriction on flying limitations (or Special Flying Instruction) arising from any reported failure, malfunction or defect.

53. The DO **should** raise and distribute a Narrative Fault Report when:

a. A failure, malfunction or defect occurs which could affect the Safety of personnel, or materiel, or operational effectiveness, or availability of materiel, and which is not of sufficient urgency to require an urgent report being sent but is nevertheless sufficiently important to justify a detailed investigation.

b. When required by a Service Inquiry or as directed by the TAA or Commodity CE.

Failures, Malfunctions and Defect Investigation and Closure

54. The DO **should** ensure they have a system in place for the investigation of failures, malfunctions and defects for their Air System, Product, Part or Appliance, Airborne Equipment and ALW, that is agreed with the TAA or Commodity CE.

55. In the case of a failure, malfunction or defect arising from a design or production deficiency, the relevant DO or Production Organization, as appropriate, **should** investigate the cause and report the results to the TAA or Commodity CE.

56. When failures, malfunctions and defects are reported on materiel which has been procured as both Contractor Furnished Equipment and Government Furnished Equipment, a common investigation and reporting procedure **should** be used.

57. On receipt of a request for an investigation, the DO **should** call forward all faulty materiel required for investigation.

58. The DO **should** ensure they have a system in place for the rectification and closure of reported failures, malfunctions and defects, that is agreed with the TAA or Commodity CE.

Quarantine

59. The DO **should** ensure that when they are in possession or control of materiel that is reported as faulty, it is quarantined and protected to prevent deterioration or disturbance which may hamper investigation and is disposed of in a controlled manner.

Guidance Material 5850(8)

Failures, Malfunctions and Defects

60. A Narrative Fault Report may be made on a MOD Form 760 Narrative Fault Report or equivalent.

61. Failure, malfunction and defect investigation priorities may be determined by the TAA or Commodity CE.

62. The DO will agree with the MOD individual authorizing the request the format and distribution of investigation reports resulting from data analysis requests.

Regulation 5850(9)

Findings (MRP Part 21.A.258)

5850(9) After receipt of notification of findings, the DO **shall** demonstrate corrective action appropriate to the level of the finding.

Acceptable Means of Compliance 5850(9)

Findings (MRP Part 21.A.258)

63. After receipt of notification of findings under the administrative procedures established by the MAA, the DO **should** demonstrate corrective action to the satisfaction of the MAA within the agreed period[17].

64. In the case of a significant finding resulting in the suspension or revocation of their DO Approval[18], the DO **should** provide confirmation of receipt of this notice in a timely manner.

[17] Refer to MAA03: MAA Regulatory Processes, Annex H – MAA Assurance.
[18] Refer to MAA01: MAA Regulatory Principles.

Guidance Material 5850(9)

Findings (MRP Part 21.A.258)

65. In case of a significant finding, the DO may be subject to a partial or full suspension or revocation of its Approval.

66. Details of Findings levels and Observations can be found in MAA03[17].

67. The MAA will inform the relevant TAA(s) or Commodity CE and sponsor of any findings and Corrective Action Requirements (CAR).

Regulation 5850(10)

Validity of Approval (MRP Part 21.A.259)

5850(10) A DAOS Approval **shall** be issued for an unlimited duration and remain valid subject to:

a. The DO remaining in compliance with applicable RAs;

b. The MAA or its nominated representative being granted access to the organization to determine continued compliance with applicable RAs; and

c. The Approval Certificate not being surrendered, suspended or revoked.

Acceptable Means of Compliance 5850(10)

Validity of Approval (MRP Part 21.A.259)

68. The DO **should** confirm in writing prior to any formal MAA assessment or not later than every 3 years from the last notification that the contents of their Approval Certificate and DOE remain valid. Failure to provide the required confirmation can result in the suspension of the Approval.

Guidance Material 5850(10)

Validity of Approval (MRP Part 21.A.259)

69. Nil.

Regulation 5850(11)

Privileges (MRP Part 21.A.263)

5850(11) A DO **shall** operate privileges only when they have been invoked by the appropriate TAA or Commodity CE.

Acceptable Means of Compliance 5850(11)

Privileges (MRP Part 21.A.263)

Invoking specific privileges

70. The DO **should** only operate privileges when they have had their competence assessed by the MAA, their Terms of Approval contain the relevant provision, and the privileges are invoked in writing by the TAA or Commodity CE.

71. Once invoked, the DO **should** be entitled, within its Terms of Approval and under the relevant procedures of the DMS, to operate the privilege to:

a. Classify changes to design[19] and Repairs[20] as Minor or Major.

b. Approve Minor Changes[21] and minor Repairs[22].

c. Issue information and instructions, containing the following statement: "The technical content of this documentation is approved under the authority of MAA DAOS ref. [UK.MAA.DAOS.xxxx]," where 'xxxx' represents the reference number. NB: This privilege **should not** be used for instructions relating to an unsafe condition[23], including ADs[6] and SI(T)s[7].

[19] Refer to RA 5820(1): Classification of Changes in Type Design (MRP Part 21.A.91).
[20] Refer to RA 5865(3): Classification of Repairs (MRP Part 21.A.435).
[21] Refer to RA 5820(3): Approval of Minor Changes (MRP Part 21.A.95).
[22] Refer to RA 5865(5): Issue of a Repair Design Approval (MRP Part 21.A.435).
[23] Refer to RA 5825 – Fault Reporting and Investigation.

Acceptable Means of Compliance 5850(11)

d. To approve the flight conditions under which a MPTF (Development) can be issued[16], except for initial flights of:

(1) A new type of Air System; or

(2) An Air System modified by a Major Change; or

(3) An Air System whose flight and / or piloting characteristics have been modified; or

(4) An Air System dedicated to expanding the agreed flight envelope, as defined within an extant Release To Service[24] (RTS).

e. Issue a MPTF (Development)[16] for an Air System it has designed or modified, or for which it has approved the conditions under which the MPTF (Development) can be issued and when the DO itself is controlling the configuration of the Air System under its scope of DO Approval, noting that the Prilvileged DO cannot issue the intial MPTF (Development).

72. The DO **should** develop its own internal procedures for the relevant privileges identified in paragraph 71, based on the requirements of Annex C.

73. The DO **should** assure the TAA or Commodity CE that any changes approved under the provision of any privilege that has been invoked are accurately classified.

74. The DO **should** assure the TAA or Commodity CE that there is a robust mechanism for managing the configuration control of the Air System or equipment for any changes approved under the provisions of any privilege that has been invoked.

75. The DO **should** provide the TAA or Commodity CE or their authorized representative a declaration that the change or Repair has been approved.

76. The TAA or Commodity CE or their authorized representative **should** acknowledge receipt of declaration of Approval.

77. The TAA or Commodity CE **should** make appropriate arrangements for Configuration Management in conjunction with the DO, to ensure that the application of design changes, including any SI(T) or SB to the same Air System or equipment, is managed effectively and is transparent to the Operating Duty Holder.

78. The privileges invoked **should** remain valid until such time as they are surrendered, suspended or revoked. In the situation where the individual invoking the privileges departs their post, the privileges invoked **should** remain valid for a maximum period of 3 months until such time as the new incumbent can re-assess the award of privileges. The privileges **should** be automatically revoked if not re-awarded within the 3 month period.

Guidance Material 5850(11)

Privileges (MRP Part 21.A.263)

Invoking Specific Privileges

79. Whilst the TAA or Commodity CE has the ability to revoke privileges, the MAA holds the ultimate sanction of limiting the scope of an organization's Approval if it is deemed the DT, ►DO◄ or organization is not fully compliant with the MRP.

80. The information and instructions, including the necessary data, are issued by the DO to the TAA or Commodity CE to implement a change, a Repair, or an inspection. Some are also issued to provide Maintenance organizations with all necessary Maintenance data for the performance of Maintenance, including implementation of a change, a Repair, or an inspection.

81. The preparation of this data involves design, production and inspection. As the overall responsibility, through the privilege, is allocated to the DO, these aspects will be properly handled by the DO to obtain the privilege "to issue information and instructions containing a statement that the technical content is approved", and a procedure will exist.

82. In derogation to para 71 sub-paras a to d, for a military Air System derived from a civil type certified Air System, the holder of a MAA DAOS Approval may be entitled

[24] Refer to RA 1300 – Release To Service.

Guidance Material 5850(11)

to declare to the TAA the applicability, through validation of no impact to the military Certification basis and the intended use, of the following when it is has already been approved by an MAA agreed civil aviation authority or a DO[25] utilizing its civil-Approval privilege:

a. A Minor design change; or

b. An ISTA; or

c. Revisions to the flight manual.

Regulation 5850(12)

Designs using Government Furnished Equipment

5850(12) The DO **shall** obtain the authority of the MOD before altering the design of any Government Furnished Equipment (GFE).

Acceptable Means of Compliance 5850(12)

Designs using Government Furnished Equipment

83. If the DO has any doubt about the design suitability of any item, or has proposals for design changes, they **should** advise the MOD at the earliest opportunity.

Guidance Material 5850(12)

Designs using Government Furnished Equipment

84. The installation, functional and environmental interface definitions documentation may be formally referred to as the Interface Control Documentation (ICD).

85. Where GFE is provided without the appropriate supporting Design Records (eg CofD, ICD), the DO will communicate the omission to the relevant TAA or Commodity CE for their decision to proceed with the design change.

Regulation 5850(13)

Record Keeping

5850(13) All relevant design information, drawings, test reports, including inspection records and Type Airworthiness Management information **shall** be held by the appropriate DO, and available if required.

Acceptable Means of Compliance 5850(13)

Record Keeping

86. Such documentation **should** be held in order to provide the information necessary to ensure the Type Airworthiness of an Air System and be retained[26].

Guidance Material 5850(13)

Record Keeping

87. International or collaborative programmes will be required to co-ordinate custodianship of appropriate documentation.

[25] Where an Alternative Acceptable Means of Compliance has been approved by the MAA for use of the civil approval under RA 1005 – Contracting with Competent Organizations or RA 1014 – Design Organizations and Co-ordinating Design Organizations - Airworthiness Responsibilities.

[26] Refer to RA 1225 – Air Safety Documentation Audit Trail.

Annex A

Design Management System (DMS)

Definitions

1. The system monitoring function may be undertaken by the existing Quality Assurance organization when the DO is part of a larger organization.

2. The DMS is the organizational structure, responsibilities, procedures and resources to ensure the proper functioning of the DO.

3. The DMS includes a Safety Management System and a design Assurance system with clear lines of responsibility and accountability throughout the organization. Design Assurance means all those planned and systematic actions necessary to provide adequate confidence that the organization has the capability:

   a. To design Products, Parts or Appliances iaw the applicable Certification Specifications.

   b. To show and verify the compliance with the applicable Certification Specifications, or Product, Part, Appliance, Airborne Equipment and ALW specifications.

   c. To demonstrate to the MAA this compliance for the purposes of DAOS Approval and to the TAA when required.

Design Management System

4. The complete process starts with the Certification Specifications and Product, Part and Appliance specifications that culminates in Type Certification. It establishes the relationship between the design, the Design Investigation and design Assurance processes.

5. Effective design Assurance demands a continuing evaluation of factors that affect the adequacy of the design for intended applications, in particular that the Product, Part or Appliance, complies with applicable Certification Specifications and will continue to comply after any change. Such changes include amendment to place of manufacture, manufacturing methods or material sources[27].

6. Two main aspects **should** therefore be considered:

   a. How the planned and systematic actions are defined and implemented, from the very beginning of design activities up to Type Airworthiness activities;

   b. How these actions are regularly evaluated and corrective actions implemented as necessary.

Design Management System - Independent checking function of the showing of compliance

7. The independent checking function of the showing of compliance **should** consist of the verification by a person not creating the compliance data. Such person may work in conjunction with the individuals who prepare compliance data.

8. The verification **should** be shown by signing compliance documents, including test programmes and data.

9. There is normally only one CVE nominated for each Certification Specification, or Product, Part and Appliance specifications for a given design activity.

10. A procedure **should** cover the non-availability of nominated persons and their replacement when necessary.

Planned and Systematic Actions

11. For the DO carrying out Design Investigation of Products, Parts, Appliances, Airborne Equipment and ALW, the subsequent tasks and procedures will be defined and put in place to cover the planned and systematic actions.

General

12. To issue or, where applicable, supplement or amend the DOE iaw RA 5850(6), in particular to indicate the initiation of design activities on a Product, Part, Appliance, Airborne Equipment and ALW.

13. To assure that all instructions of the DOE are adhered to.

14. To nominate staff as CVEs responsible to approve compliance documents.

[27] A change in place or method of manufacture or a change of explosive material or source of explosive material will require Independent Ordnance, Munitions and Explosives Safety Advisor advice; refer to DSA 02.OME(2) – Appointment of an Independent OME Safety Advisor.

15. To nominate personnel belonging to the Office of Airworthiness with appropriate responsibilities.

16. To ensure full and complete liaison between the DO and related organizations having responsibility for Products, Parts and Appliances manufactured to the specification.

17. To provide the Assurance to the TAA or Commodity CE that prototype models and test specimens adequately conform to the design.

Chief Executive and HDO (or their Deputy)

18. The Chief Executive will provide the necessary resources for the proper functioning of the DO.

19. The HDO, or an authorized representative, **should** sign a CofD[3] stating compliance with the applicable Certification Specifications, or Product, Part, Appliance, Airborne Equipment and ALW specifications, after verification of satisfactory completion of the Design Investigation. Iaw RA 5810[28] and RA 5820[4], their signature on the CofD confirms that the procedures as specified in the DOE have been followed.

20. The functions of Chief Executive and HDO may be performed by the same person.

Compliance Verification

21. Approval by signing of all compliance documents, including test programmes and data, necessary for the verification of compliance with the applicable Certification Specifications as defined in the Certification Programme.

22. Internal Approval of the technical content (eg completeness, technical accuracy), including any subsequent revisions, of the manuals for the subsequent release by the TAA or Commodity CE.

Office of Airworthiness

23. Liaison between the DO and the TAA or Commodity CE with respect to all aspects of the Certification programme.

24. Ensuring that a DOE is prepared and updated as required in RA 5850(4).

25. Co-operation with the MAA in developing procedures to be used for the design Certification process.

26. Issuing of guidelines for documenting compliance.

27. Co-operation in issuing guidelines to ensure compliance with the Regulations for the preparation of the manuals, SB, SI(T), design changes, drawings, specifications and standards.

28. Ensuring distribution of applicable Certification Specification and other specifications.

29. Co-operating with the TAA or Commodity CE in proposing the Type Certification Basis.

30. Interpretation of Certification Specification and requesting decisions of the TAA or Commodity CE.

31. Advising of all departments of the DO in all questions regarding Airworthiness Approvals and Certification.

32. Preparation of the Certification programme and co-ordination of all tasks related to Design Investigation in concurrence with the TAA or Commodity CE.

33. Regular reporting to the TAA or Commodity CE about Design Investigation progress and announcement of scheduled tests in due time.

34. Ensuring co-operation in preparing inspection and test programmes needed for demonstration of compliance.

35. Establishing and maintaining the compliance checklist to provide evidence underpinning the Compliance Statement.

36. Checking that all compliance documents are prepared as necessary to show compliance with all Certification Specifications, as well as for completeness, and signing for release of the documents.

37. Checking the required design definition documents described in RA 5810 and ensuring that they are provided to the TAA or Commodity CE for Approval when required.

38. Preparation, if necessary, of a draft for a Type Certificate Data Sheet and / or Type Certificate Data Sheet Modification.

[28] Refer to RA 5810 – Military Type Certificate (MRP Part 21 Subpart B).

39. Providing verification to the HDO that all activities required for Design Investigation have been properly completed.

40. Approving the classification of changes[4] and granting the Approval for Minor Changes when appropriately privileged to do so.

41. Monitoring of significant events on other aeronautical Products, Parts, Appliances, Airborne Equipment and ALW as far as relevant to determine their effect on Airworthiness of Products, Parts, Appliances, Airborne Equipment and ALW being designed by the DO.

42. Ensuring co-operation in preparing SB, SI(T) and the Structural Repair Manual and subsequent revisions, with special attention being given to the manner in which the contents affect Certification Specifications for subsequent Approval by the TAA or Commodity CE.

43. Ensuring the initiation of activities as a response to failure (Air Safety Occurrences) evaluation and complaints from the operation and providing of information to the TAA or Commodity CE in case of Airworthiness impairment.

44. Advising the TAA or Commodity CE with regard to the issue of SI(T).

45. Ensuring that the manuals to be approved by the TAA or Commodity CE, including any subsequent revisions are checked to determine that they meet the respective requirements and that they are provided to the TAA or Commodity CE for Approval.

Maintenance and Operating Instructions

46. Ensuring the preparation and updating of all Maintenance and operating instructions needed to maintain Airworthiness iaw relevant Certification Specifications. For that purpose, the DO will:

a. Establish the list of all documents it is producing; and

b. Define procedures and organization to produce and issue these documents to the TAA or Commodity CE.

Continued Effectiveness of the Design Management System

47. The organization **should** establish the means by which the continuing evaluation (system monitoring) of the DMS will be performed in order to ensure that it remains effective.

Annex B

Design Organization Exposition Requirements

Part 1 - Organization

1. Document title and Organizations document reference number.
2. Organization name, address, telephone, telex, facsimile numbers, e-mail address.
3. Index.
4. List of effective pages with revision / date / amendment identification for each page.
5. Distribution list.
6. Objective of DOE and binding statement.

   a. The DOE **should** be signed by the Chief Executive and the HDO and declared as a binding instruction for all personnel charged with the development and Design Investigation of Products, Parts, Appliances, Airborne Equipment and ALW.

7. Responsible person(s) for administration of the DO handbook.
8. Amendments.

   a. Amendment record sheet.

   b. A system **should** be clearly laid down for carrying out amendments to the DOE, including how amendments are identified within the document.

9. Presentation of DO (including locations).

   a. An introduction, or foreword, explaining the purpose of the document for the guidance of the organization's own personnel. Brief general information concerning the history and development of the organization and, if appropriate, relationships with other organizations which can form part of a group or consortium, **should** be included to provide background information for the MAA.

10. Scope of work (with identification of type and models of Products, Parts, Appliances, Airborne Equipment and ALW) according to the following classification:

    a. General areas, eg type of Air Systems, Product, Part, Appliance, Airborne Equipment and ALW.

    b. Technologies handled by the organization (composite, wood or metallic construction, electronic systems, software, etc).

    c. A list of types and models for which the design Approval has been granted and for which privileges can be exercised, supported by a brief description for each Products, Parts, Appliances, Airborne Equipment and ALW.

    d. For Repair design, classification and (if appropriate) Approval activities it is necessary to specify the scope of activity in terms of Products, Parts, Appliances, Airborne Equipment and ALW.

11. Organization structure.

    a. A description of the organization, its departments, their functions and the names of those in charge: a description of the line management.

    b. A description of functional relationships between departments, including assigned responsibilities and delegated authority of all parts of the organization which, taken together, constitute the organization's DMS.

    c. A general description of the way in which the organization performs its functions in relation to the Airworthiness and continued operational suitability of the product it designs, including co-operation with the Production Organization when dealing with any Airworthiness actions that are related to production of the Product, Part, Appliance, Airborne Equipment and ALW as deemed applicable by the TAA or Comodity CE.

    d. A chart indicating the functional and hierarchical relationship of the DMS to Management and to other parts of the organization within the DMS and the control of the work of all partners and sub-contractors.

12. Human resources.

a. A description of the human resources, facilities and equipment, which constitutes the means for design and where appropriate, for ground and flight testing.

b. An outline of the system for controlling and informing the Staff of the organization of current changes in engineering drawings, specifications and design Assurance procedures.

13. Management staff.

a. A description of assigned responsibilities and delegated authority of all parts of the organization which, taken together constitute the organization's DMS; also, the chains of responsibilities within the DMS, and the control of the work of all partners and subcontractors.

14. Record Keeping.

a. A description of the recording system for:

(1) The design, including relevant design information, drawings and test reports, including inspection records of test specimens.

(2) The means of compliance.

(3) The compliance documentation (compliance check list, reports).

15. Certifying personnel.

a. The names of the DO authorized signatories. Nominated persons with specific responsibilities **should** be listed.

b. A clear definition of the tasks, competence and areas of responsibility of the Office of Airworthiness.

c. A statement of Suitably Qualified and Experienced Person(s) (SQEP) responsible for making decisions affecting Airworthiness in the organization.

16. Independent system monitoring.

a. A description of the means by which the continuing evaluation (system monitoring) of the DMS will be performed in order to ensure that it remains effective.

17. Evidence of a QMS Certification (as defined by the Defence Authority for Technical and Quality Assurance Mandatory Requirement for Appropriate Certification) to AS/EN 9100, or to ISO 9001 providing the scope of Certification covers the proposed DO Terms of Approval.

18. A description of the means by which the organization monitors and responds to problems affecting the Airworthiness or operational suitability of its product during design, production and In-Service.

19. A description of the procedures for the establishment and the control of the Maintenance and operating instructions as instructed by the TAA.

Part 2 - Procedures

20. A general description of the way in which the organization performs all the design functions in relation to Airworthiness, operational Approvals including:

a. The procedures followed and forms used in the design investigation process to ensure that the design of, or the change to the design of, the product as applicable is identified and documented and complies with the applicable Certification Specifications, including contracted requirements.

b. The procedures for classifying design changes as 'Major' or 'Minor' and for the Approval of Minor changes, if appropriately privileged to do so.

c. The procedures for classifying and approving unintentional deviations from the approved design data occurring in production (concessions or non-conformances), if appropriate to do so[29].

d. The procedures for re-establishing a Type Design definition for Parts and Appliances of orphaned Products or for obsolete Parts and Appliances, for which the original design drawings or data no longer exist.

e. The procedure for classifying and obtaining Approval for Repairs, if appropriately privileged to do so.

[29] Refer to Def Stan 05-061 Part 1 – Quality Assurance Procedural Requirements – Concessions.

f. The procedures for the establishment and the control of the Maintenance and operating instructions

g. The procedures for the establishment and the control of the MPTF (Development).

h. The procedures and controls related to the utilization of Artificial Intelligence within the design and development process. The DOE **should** make clear where and how this is utilized in relation to the DOs Approval scope.

21. In addition, the organization controls and records the design documentation and means of compliance for:

a. The basic Product, Part, Appliance, Airborne Equipment and ALW.

b. Design changes to the Product, Part, Appliance, Airborne Equipment and ALW.

c. The design schemes for Product, Part, Appliance, Airborne Equipment and ALW Repairs.

d. The reporting and response to Product, Part, Appliance, Airborne Equipment and ALW failures / malfunctions and defects.

22. The organization **should** identify (by reference or explicit description) the procedures it uses to select subcontractors and manage the design of Products, Parts, Appliances, Airborne Equipment and ALW produced.

23. The organization **should** identify (by reference or explicit description) the procedures it uses to control design production, including production by subcontractors charged with the design and production of Products, Parts, Appliances, Airborne Equipment and ALW and subcontractors charged with production of the approved design. Procedures **should** include:

a. Changes in manufacturing location, method, source material.

b. Where novel production processes such as additive manufacturing are utilized.

24. Control of design subcontractors.

25. Co-ordination with production.

26. Sustained Airworthiness.

a. A description of the way in which the organization performs its functions in relation to the Sustained Airworthiness of the Product, Part, Appliance, Airborne Equipment and ALW it designs.

27. Collecting / Investigating failures, malfunctions and defects.

a. A description of the means by which the organization monitors and responds to problems affecting the Airworthiness of its Product, Part, Appliance, Airborne Equipment and ALW.

Guidance Material - Statement of Qualifications and Experience

28. Three different types of functions are named or implicitly identified, using qualified and experienced personnel:

a. The Chief Executive.

b. The other management staff:

(1) HDO.

(2) HoA.

(3) The HISM.

c. Personnel making decisions affecting Airworthiness:

(1) CVE.

(2) Personnel of the Office of Airworthiness making decisions affecting Airworthiness, especially those linked with the privileges identified in RA 5850(11) approving the classification of changes, Repairs and granting the Approval of Minor Changes.

Chief Executive

29. The Chief Executive **should** provide the necessary resources for the proper functioning of the DO. A statement of the qualification and experience of the Chief Executive is normally not required.

Other Management Staff

30. The person or persons nominated **should** represent the management structure of the organization and be responsible through the HDO to the Chief Executive for the execution of all functions as specified in RA 5850. Depending on the size of the organization, the functions can be subdivided under individual managers.

31. The nominated managers **should** be identified and their credentials furnished to the MAA on MAA DAOS Form 4 in order that they can be seen to be appropriate in terms of relevant knowledge and satisfactory experience related to the nature of the design activities as performed by the organization.

32. The responsibilities and the tasks of each individual manager **should** be clearly defined, in order to prevent uncertainties about the relations, within the organization. Responsibilities of the managers **should** be defined in a way that all responsibilities are covered.

Personnel making decisions affecting Airworthiness

33. For personnel making decisions affecting Airworthiness, no individual statement is required. The applicant **should** show to the MAA that there is a system to select, train, maintain and identify them for all tasks where they are necessary. The following guidelines for such a system are proposed:

a. These personnel **should** be identified in the DO handbook, or in a document linked to the DO handbook. This and the corresponding procedures are there to enable them to carry out the assigned tasks and to properly discharge associated responsibilities.

b. The needs, in terms of quantity of these personnel to sustain the design activities, **should** be identified by the organization.

c. These personnel **should** be chosen based on their knowledge, background and experience.

d. When necessary, complementary training **should** be established, to ensure sufficient background and knowledge in the scope of their authorization. The minimum standards for new personnel to qualify in the functions **should** be established. The training **should** lead to a satisfactory level of knowledge of the procedures relevant for the role.

e. Training policy forms part of the DMS and its appropriateness forms part of the investigation by the MAA within the organization Approval process and subsequent surveillance of persons proposed by the organization.

f. This training **should** be adapted in response to experience gained within the organization. The organization **should** maintain a record of these personnel which includes details of the scope of their authorization. The personnel concerned **should** be provided with evidence of the scope of their authorization.

34. The following minimum information **should** be kept on record:

a. Name.

b. Experience and training.

c. Position in organization.

d. Scope of the authorization.

e. Date of first issue of the authorization.

f. If appropriate, date of expiry of the authorization.

g. Identification number of the authorization.

35. The record can be kept in any format and **should** be controlled:

a. Persons authorized to access the system **should** be kept to a minimum to ensure that records are not altered in an unauthorized manner or that such confidential records do not become accessible to unauthorized persons.

b. Personnel can be given access to their own record.

c. Under the provision of RA 5850(7) the MAA **should** have access to the data held in such a system.

d. The organization **should** keep the record for at least 2 years after a person has ceased employment with the organization or revocation of the authorization, whichever is the sooner.

Annex C

Internal Procedures for Operating Specific Privileges

Classify changes to Design and Repairs as Minor or Major (refer to RA 5850 paragraph 71.a)

Intent

1. The DO **should** develop its own internal procedure for the classification of changes to design and Repairs as Minor or Major in order to obtain the associated privilege.

Content

2. The procedure **should** address the following points:

   a. The identification of changes to design or Repairs.

   b. Classification.

   c. Justification of the classification.

   d. Authorized signatories.

   e. Supervision of changes to design or Repairs initiated by subcontractors.

3. For changes to design, criteria used for classification **should** be in compliance with RA 5820.

4. For Repairs, criteria used for classification **should** be in compliance with RA 5865[5].

Identification of changes to design or Repairs

5. The procedure **should** indicate how the following are identified:

   a. Major Changes to design or major Repairs.

   b. Those Minor Changes to design or minor Repairs where additional work is necessary to show compliance with the applicable Certification Specifications.

   c. Other Minor Changes to design or minor Repairs requiring no further showing of compliance.

Classification

6. The procedure **should** show how the effects on Airworthiness are analysed, from the very beginning, by reference to the applicable Certification requirements.

7. If no specific Certification Specifications are applicable to the change or Repairs, the above review **should** be carried out at the level of the Product, Part, Appliance or system where the change or Repair is integrated and where specific Certification Specifications are applicable.

Justification of the classification

8. All decisions of classification of changes to design or Repairs as Major or Minor **should** be recorded. These records **should** be easily accessible to the TAA for sample check.

Authorized signatories

9. All classifications of changes to design or Repairs **should** be accepted by an appropriate authorized signatory.

10. The procedure **should** indicate the authorized signatories for the various Products, Parts, Appliances, Airborne Equipment and ALW listed in the Terms of Approval.

11. For those changes or Repairs that are handled by subcontractors, it **should** be described how the DO manages its classification responsibility.

Supervision of changes to design or Repairs initiated by subcontractors

12. The procedure **should** indicate, directly or by cross-reference to written procedures, how changes to design or Repairs **should** be initiated and classified by subcontractors and are controlled and supervised by the DO.

Approve Minor Changes to design and minor Repairs (refer to RA 5850 paragraph 71.b)

Intent

13. The DO **should** develop its own internal procedure for the Approval of Minor Changes to design or minor Repairs in order to obtain the associated privilege.

Content

14. The procedure **should** address the following points:

a. Compliance documentation.

b. Approval under the DO privilege.

c. Authorized signatories.

d. Supervision of Minor Changes to design or minor Repairs handled by subcontractors.

Compliance documentation

15. For those Minor Changes to design or minor Repairs where additional work to show compliance with the applicable Certification Specifications is necessary, compliance documentation **should** be established and independently checked as required by RA 5850(3).

16. The procedure **should** describe how the compliance documentation is produced and checked.

Approval under the DO privilege

17. For those Minor Changes to design or minor Repairs where additional work to show compliance with the applicable Certification Specifications is necessary, the procedure **should** define who the change is approved by under the DO privilege.

18. This document **should** include at least:

a. Identification and brief description of the change or Repair and reasons for change or Repair.

b. Applicable Certification Specifications and methods of compliance.

c. Reference to the compliance documents.

d. Effects, if any, on limitations and on the approved documentation.

e. Evidence of the independent checking function of the showing of compliance.

f. Evidence of the Approval under the privilege of RA 5850(11) by an authorized signatory.

g. Date of the Approval.

19. For the other Minor Changes to design or minor Repairs, the procedure **should** define a means to identify the change or Repair and reasons for the change or Repair and to formalise its Approval by the appropriate engineering authority under an authorized signatory. This function can be delegated by the Office of Airworthiness but **should** be controlled by the Office of Airworthiness, either directly or through appropriate procedures of the DO Design Management System.

Authorized signatories

20. The persons authorized to sign for the Approval under privilege **should** be identified (name, signature and scope of authority) in appropriate documents that are linked to the DO handbook.

Supervision of Minor Changes to design or minor Repairs handled by subcontractors

21. For the Minor Changes to design or minor Repairs that are handled by subcontractors, the procedure **should** indicate, directly or by cross-reference to written procedures how these Minor Changes to design or minor Repairs are approved at the subcontractor level and the arrangements made for supervision by the DO.

Issue of information and instructions (refer to RA 5850 paragraph 71.c)

Intent

22. The DO **should** develop its own internal procedure for the issue of information and instructions.

Content

23. For the information and instructions issued under this privilege, the DO **should** establish a procedure addressing the following points:

a. Preparation.

b. Verification of technical consistency with corresponding approved change(s), Repair(s) or approved data, including effectivity, description, effects on Airworthiness, especially when limitations are changed.

c. Verification of the feasibility in practical applications.

d. Authorized signatories.

24. The procedure **should** include the information and instructions prepared by subcontractors or vendors and declared applicable to its Products, Parts, Appliances, Airborne Equipment and ALW by the DO.

Statement

25. The statement provided in the information and instructions **should** also cover the information and instructions prepared by subcontractors or vendors and declared applicable to its Products, Parts and Appliances by the DO.

26. The technical content **should** be related to the Design Records and accomplishment instructions and its Approval **should** mean that:

a. The Design Records has been appropriately approved.

b. The instructions provide for practical and well defined installation / inspection methods and, when accomplished, the Products, Parts, Appliances, Airborne Equipment and ALW are in conformity with the approved Design Records.

27. Where appropriate, this technical data **should** be clearly identified within the CofD for the TAA or Commodity CE.

28. Information and instructions related to required actions issued under an AD or SI(T) **should** be submitted to the TAA to ensure compatibility with the AD or SI(T) content and **should** contain a statement that they are, or soon to be, subject to an AD or SI(T) issued.

To approve the flight conditions under which a MPTF (Development) can be issued (refer to RA 5850 paragraph 71.d)

Intent

29. The DO **should** develop its own internal procedure to determine and approve that an Air System can fly under the appropriate restrictions compensating for the lack of an extant RTS.

Content

30. The procedure **should** address the following points:

a. Decision to use the privilege.

b. Management of the Air System configuration.

c. Determination of the conditions that **should** be complied with to perform safe flight.

d. Documentation of flight conditions substantiations.

e. Approval under the approved DO privilege, when applicable.

f. Authorized signatories.

31. The procedure **should** include a decision to determine:

a. Flights for which this privilege can be exercised.

b. Flights for which the Approval of flight conditions by the TAA are required.

32. The procedure **should** indicate:

a. How the Air System, for which an application for a MPTF (Development) is made, is identified and how changes to the Air System **should** be managed.

Determination of the conditions that should be complied with to perform safe flight

33. The procedure **should** describe the process used by the DO to justify that an Air System can perform the intended flight. The process **should** include:

a. Identification of deviations from the extant RTS or applicable Airworthiness requirements.

b. Analysis, calculations, tests or other means used to determine the conditions or restrictions under which the Air System can perform safe flight.

c. The establishment of specific Maintenance instructions and conditions to perform these instructions.

d. Independent technical verification of the analysis, calculations, tests or other means used to determine under which conditions or restrictions the Air System can perform the intended flight(s) safely.

e. Statement by the Office of Airworthiness (or equivalent), that the determination has been made iaw the procedure and that the Air System has no features and characteristics making it unsafe for the intended operation under the identified conditions and restrictions.

f. Approval by an authorized signatory.

Documentation of flight conditions substantiations

34. The analysis, calculations, tests, or other means used to determine the conditions or restrictions under which the Air System can perform in flight safely, **should** be compiled in compliance documents. These documents **should** be signed by the author and by the person performing the independent technical verification.

35. Each compliance document **should** have a number and issue date. The various issues of a document **should** be controlled.

Authorized signatories

36. The person(s) authorized to sign the Approval form **should** be identified (name, signature and scope of authority) in the procedure, or in an appropriate document linked to the DOE.

Issue a MPTF (Development) iaw RA 5880 (refer to RA 5850 paragraph 71.e)

Intent

37. The DO **should** develop its own internal procedure for the issue of a MPTF (Development)[16] for an Air System it has designed or modified, or for which it has approved under privilege the conditions under which the MPTF (Development) can be issued and when the DO itself is controlling under its DO Terms of Approval the configuration of the Air System and is attesting conformity with the design conditions approved for the flight.

Content

38. The procedure **should** address the following points:

a. Conformity with approved conditions.

b. Issue of the MPTF (Development) under privilege in the scope of the DO Approval.

c. Authorized signatories.

d. Interface with the TAA for the flight.

Conformity with approved conditions

39. The procedure **should** indicate how conformity with approved conditions is made, documented and attested by an authorized person.

Issue of the MPTF (Development) under the DO privilege

40. The procedure **should** describe the process to prepare the MPTF (Development) and how compliance is established before signature of the MPTF (Development).

Authorized signatories

41. The person(s) authorized to sign the MPTF (Development) under the privilege in the scope of the DO Approval **should** be identified (name, signature and scope of authority) in the procedure, or in an appropriate document linked to the DOE.

Interface with the TAA for the flight

42. The procedure **should** include provisions describing the communication with the TAA for compliance with the local requirements which are outside the scope of the flight conditions.