GALAXY AEROSPACE (M) SDN. BHD. (1040262-D)

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DESIGN ORGANISATION MANUAL

CAAM DOA NUMBER: DOA/2020/01

GAM/DOM

REVISION 6

COPY NO: 02

CONTROLLED COPY

List of Effective Pages

CHAPTER	NUMBER OF PAGES	REVISION	DATE
Cover Sheet	1	6	01 Oct 2021
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DETAIL	NAME	SIGNATURE/ STAMP	DATE
PREPARED BY:	NUR FARHANA OTHMAN CHIEF OF AIRWORTHINESS GALAXY AEROSPACE (M) SDN BHD		01 Oct 2021
VERIFIED AND APPROVED BY:	Ir. NIZAM NAZAR HEAD OF DESIGN ORGANISATION GALAXY AEROSPACE (M) SDN BHD		01 Oct 2021
APPROVED BY:	CIVIL AVIATION AUTHORITY OF MALAYSIA		

List of Amendments

ISSUE	REVISION	DATE	REASONS FOR CHANGE
Initial	0	11 Sep 2019	Initial
Initial	1	01 Apr 2020	1- Update Revision on Front Page 2- Update List of Effective Chapters 3- Update List of Amendments 4- Chapter 1.6.3.2: Amend the duties and responsibilities of CVE. Replace word "Verification by…" to "Approval by…" 5- Chapter 1.6.5.1: Insert CC as part of compliance document under SCE responsibilities 6- Chapter 1.6.6: Amend the responsibilities of Approved Signatory; Replace "Approved by" to Verified & Approved by"; Editorial changes- Signatory to Signatories as per title in Appendix A 7- Chapter 2.1: Insert the Provisional DOA Certificate 8- Chapter 4.1: e. Insert element of approval under CVE task for compliance documents f. Insert element of approval under CVE task for compliance documents 9- Chapter 4.3.2.1: Editorial changes- Update title Appendix A and Appendix B 10- Chapter 4.3.4: a. Add CC document b. Insert CC and MD in Compliance Document list 11- Chapter 4.3.5: b. Amend from "Approved by" to "Verified & Approved by" c. Amend from "Verified by" to "Released by" and definition of "Released by" 12- Chapter 6.1.2: Amend ICA preparation by SCE, verification and approval by CVE and released by Approved Signatory 13- Chapter 6.1.3: Amend MD preparation by SCE, verification and approval by CVE and released by Approved Signatory 14- Appendix B- Update Documents Signature Rules - 4th column- from "Verified by" to "Verified & Approved by" -MD, DRAS, ICA released by Approved signatory instead of none -CC prepared by SCE instead of CVE -ML prepared by CVE, verified & approved by Approved Signatory and released by COA.
Initial	2	09 Jul 2020	1 - Chapter 2.1: Replace certificate of approval 2 - Chapter 2.4: Remove -P 3 - Chapter 3.2: Include 30 days for CAAM notification 4 - Chapter 4.3.3: Include ICA requirement in Certification Plan (CP) 5 - Chapter 4.3.7: Remove -P 6 - Chapter 6.1.1: Remove -P 7 - Chapter 6.1.2: Include changes to ICA requirement 8 - Appendix A: Include Ir. Nizam as CVE and Approved Signatory

ISSUE	REVISION	DATE	REASONS FOR CHANGE
Initial	3	23 Nov 2020	1- Update Revision on Front Page 2- Update List of Effective Chapters 3- Update List of Amendments 4- Chapter 1.2: Applicant- Update details of HODO 5- Chapter 1.5: Organisation Chart- Update details of HODO 6- Appendix A: Signatories List- Update details of HODO 7- Appendix A: CVE and Approved Signatories- Include Ir. Nizam as CVE (structure)
Initial	4	12 Jan 2021	1- Update Revision on Front Page 2- Update List of Effective Chapters 3- Update List of Amendments 4- Chapter 1.2: Applicant- Update details of CIMO 5- Chapter 1.5: Organisation Chart- Update details of CIMO 6- Appendix A: Signatories List- Update details of CIMO
REVISION		**DATE**	**REASONS FOR CHANGE**
5		03 May 2021	1- Update Revision on Front Page 2- Update Revision and date on header and footer, remove issuance number. 3- Update and Amend List of Effective Pages 4- Update List of Amendments 5- Update MD/CE post to Dato' 6- Chapter 0.5: Removal on issuance procedure, 7- Chapter 0.6: Replacement of non-significant change to editorial change. 8- Chapter 0.8: Update on GAM/DOA.F.033 details. 9- Chapter 0.10: Update on abbreviations. 10- Chapter 0.11: Update on reference 11- Chapter 1.4: Update on GAM DOA Office Plan. 12- Chapter 1.6: Replacement of COA to Chief Executive as the delegated personnel during lengthy absence of the HODO. 13- Chapter 4.3.2: Update the details on Classification change and Certification Basis Establishment. 14- Chapter 4.3.3: Removal of project manager. 15- Chapter 4.4: Replace GAM/DOA.P06 to GAM/DOA.P05. 16- Chapter 4.5: Update on distribution detail. 17- All related paragraph: - Replacement of CAAM reference from AN8401 to CAD 8401 - Replacement of Approved Signatory to Authorised Signatory 18- Appendix D- Addition of flowchart regarding establishment of the type – certificate basis for a changed product.
6		01 Oct 2021	1- Chapter 2.4: Add new privilege 2- Chapter 3.6: Change duration for Design Review Meeting from "every 3 months" to "every 6 months". 3- Chapter 4.2 and 4.3: Include submission of major modification/repair to CAAM. Update the change classification references and establishment of the certification basis as per CAAM CAD 8104, and 8106. 4- Chapter 5.0: Include requirement of preparation and submission of data package to CAAM for approval of major repair

Contents

Binding Statement

1. Forming the basis for approval as a Design Organisation, contents of this manual shall be binding. In particular, this manual governs the technical and organisational as well as the personnel-related prerequisites for proof of compliance and change of type design activities in the Design Organisation.

2. These procedures are approved by the undersigned and must be complied with, as applicable, when work is being carried out under GALAXY AEROSPACE (M) SDN BHD (GAM) Design Organisation Approval (DOA).

3. Access shall be permitted to the Civil Aviation Authority of Malaysia (CAAM) to all locations of the Design Organisation for investigations whenever deemed required by the CAAM.

4. All support necessary for the performance of investigations and audits shall be granted from GAM to the Civil Aviation Authority of Malaysia CAAM.

5. GAM shall ensure:
   a) The company has sufficient staff in numbers, competence and experiences to be able to discharge their allocated responsibilities.
   b) Company's facilities and equipment are adequate to comply with CAAM Civil Aviation Directive - 8401 (CAD 8401).

6. This Design Organisation Manual (DOM) shall be reviewed at intervals not exceeding 12 months or whenever significant changes occur which affect the content of the DOM. All the significant changes in the Design Organisation shall be submitted to CAAM for approval.

7. DOM shall be updated accordingly to comply with any new or amended regulation published by the CAAM from time to time.

8. It is accepted, this manual does not override the necessity of complying with any new or amended regulation published by CAAM from time to time where these new or amended regulations are in conflict with this manual.

9. It is understood that CAAM reserves the right to restrict, suspend or revoke the Design Organisation Approval (CAAM Part 21 Subpart J) of the organisation if the CAAM has evidence that procedures are not followed or standard not upheld.

GALAXY AEROSPACE (M) SDN. BHD. (1040262-D)

Dato' Shamsul Kamar Samsudin

Managing Director/Chief Executive

Chapter 0 - Introduction

0.1 Preamble

a) According to Civil Aviation Regulation 2016, Regulation 21, an organisation may engage in any stage of design, manufacture or construction of any aeronautical product in Malaysia if the organisation holds a certificate of approval issued by the Chief Executive Officer of CAAM.

b) The Design Organisation Manual (DOM) presents the organisation and the procedures that GAM has established to achieve approval as Design Organisation.

0.2 Basis of approval

This manual form the basis for the Design Organisation (DO) of GAM and shows the necessary procedures and distribution of applicable airworthiness, applicable operational suitability data (OSD) and environmental protection requirements and other specifications for the approval as DO in accordance with CAD 8401.

0.3 Design Organisation Approval (DOA)

CAAM granted approval to GAM after duly examining that DOM and organisation of the applicant is in accordance with CAD 8401- Design Organisation Approval.

0.4 Design Organisation Manual Management

a) This manual is prepared by Airworthiness Office (AWO), verified by Head of Design Organisation (HODO) of GAM and approved by CAAM. A set of all changes to the manual is filed in the AWO.

0.5 Revision Service of Design Organisation Manual

a) Amendments to the DOM shall be carried out continuously. Normally they will become necessary due to reorganization, personnel changes, and changes of procedures or as a result of changes in the DAS.

b) The revision number and the date shall be changed.

c) Incorporation of changes must be confirmed in the List of Amendments. Amended text passages must be marked with a vertical line at the left side of the page.

d) Editorial changes shall be compiled, amended and approved at the next amendment level.

e) The AWO shall advise all DO staff of any changes to the DOM, procedures and forms via email and subsequently upload into the intranet within one working day.

0.6 Change proposal

a) Proposal for significant changes to the manual shall be submitted to the AWO by DO staff via Management of Change (form GAM/QA-011) and Document Change Notice (form GAM/DOA.F.029). For proposal to editorial changes, only Document Change Notice (form GAM/DOA.F.029) is required.

b) All significant organisational and procedural changes affecting this manual are to be controlled by AWO. More details can be found in para 3.2.

c) The HODO is responsible for submitting the application for approval in writing to the CAAM.

0.7 Distribution List

0.7.1 Hard Copy

A hardcopy designated as master copy shall be kept in the GAM DO Technical Library. A controlled hardcopy shall be distributed to Airworthiness Division of CAAM.

COPY NUMBER	**HOLDER**
01 – Master Copy	GAM DO Technical Library.
02 – Controlled Copy	CAAM.

0.7.2 Electronic Copy

Latest revision(s) of DOM shall be uploaded to GAM intranet (in a dedicated shared server) and the following personnel shall be notified by email (as per para 0.5 (e)):

a) Chief Executive

b) Head of Design Organisation (HODO)

c) Chief of Airworthiness Office (COA)

d) Chief of Independent Monitoring Office (CIMO)
e) Independent Monitoring Officer (IM)
f) Compliance Verification Engineer(s) (CVEs)
g) Show Compliance Engineer(s) (SCEs)
h) Design Engineer(s) (DEs)

0.8 Documentation

a) The DOM defines procedures and refers to existing procedures by a reference number.
b) The GAM Documentation Management System for DO shall be divided into three hierarchical levels:
   i) Level 1 DIRECTIVE (GAM/DOM)
   ii) Level 2 PROCEDURES (GAM/DOA.Pxx)
   iii) Level 3 FORMS (GAM/DOA.F.xxx)
c) Directive is a document, describing general principles and rules concerning the organisation.
d) Procedures are documents defining general functioning rules and detailed operational documents coherent with level 1 and related to a process which may be common to several sectors.
e) Level 3 documents are forms with standard format or template which shall be used to document all DOA related work.
f) All DO document level shall be filed and made accessible to the GAM DO via electronic copy.
g) All DO document level shall be controlled and managed by the AWO. Proposed amendments to these documents shall be submitted to the AWO for review and approval via Document Change Notice (form GAM/DOA.F.029).
h) Revisions to level 2 and level 3 documents shall be done document wise. The document(s) affected by Document Change Notice (form GAM/DOA.F.029) must be entirely replaced. Revisions shall be marked by black bars on the left margin of the page.
i) All GAM DO related documents (level 1, 2 and 3) are controlled by DO Documentation List (GAM/DOA.F.033), which are vetted through by COA and approved by HODO.

0.9 Precedence

The procedures included or referred to in this DOM do not preclude the need to comply with any or new amended regulation published by CAAM from time to time, where these new or amended regulations are in conflict with these procedures. Should any new or amended regulations conflict with these procedures, it is the responsibility of GAM to update their procedures to reflect the intent of the regulations.

0.10 Abbreviations

A/C	Aircraft
AD	Airworthiness Directive
ASB	Alert Service Bulletin
AWO	Airworthiness Office
CAAM	Civil Aviation Authority of Malaysia
CAB	Corrective Action Board
CAD	Civil Aviation Directive
CE	Chief Executive
CC	Compliance Checklist
CS	Certification Specification
CIMO	Chief of Independent Monitoring Office
COA	Chief of Airworthiness Office
CP	Certification Plan
CS	Certification Specifications
CVE	Compliance Verification Engineer
DAS	Design Assurance System
DC	Declaration of Compliance
DE	Design Engineer
DO	Design Organisation
DMS	Documentation Management System
DOA	Design Organisation Approval
DOM	Design Organisation Manual

DRAS	Design Repair Approval Sheet
EASA	European Aviation Safety Agency
ETSO	European Technical Standard Order
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FMS	Flight Manual Supplement
GAM	GALAXY AEROSPACE (M) SDN. BHD.
HODO	Head of Design Organisation
ICA	Instructions for Continued Airworthiness
IM	Independent Monitoring Officer
IMO	Independent Monitoring Office
MC	Modification Classification record
MCAR	Malaysian Civil Aviation Regulation
MD	Modification Document
ML	Master List
MMEL	Master Minimum Equipment List
OEM	Original Equipment Manufacturer
OSD	Operational Suitability Data
SCE	Show Compliance Engineer
SDR	Service Difficulty Report
TPE	Technical Publication Executive
TSO	Technical Standard Order

0.11 Reference Documents

a) MCAR 2016 Regulation 21

b) CAD 8401- Design Organisation Approval (CAAM Part 21 Subpart J)

c) CAD 8110- Aeronautical Product Manufacturer's Repair (CAAM Part 21 Subpart M-1)

d) CAD 8102- Type Certificates and Restricted Type Certificates (CAAM Part 21 Subpart B)

e) CAD 8104- Design of Modifications (CAAM Part 21 Subpart D)

f) CAD 8106- Design of Repairs (CAAM Part 21 Subpart M)

g) CAD 8109- Installation of Modification (CAAM Part 21 Subpart D-1)

h) Design Organisation Approval Handbook, Issue 1, 01 Feb. 2009

i) Airworthiness Guidance (In-Service Difficulty Reporting), AG 8503.

j) EASA GM 21A.91 (Classification of Changes to a Type Design)

k) EASA GM 21A.101 (Establishment of the Type-Certification Basis of Changed Aeronautical Product)

Chapter 1.0 - Organisation

1.1 Objective

The objective of design activities in GAM DO is to produce a design in compliance with applicable airworthiness specifications, OSD, environmental protection requirements, reliable design and meeting stakeholder requirements.

1.2 Applicant

Company Name	GALAXY AEROSPACE (M) SDN. BHD. (1040262-D)
Chief Executive	Shamsul Kamar Samsudin Email address: sam@galaxyaerospace.my
Head of Design Organisation	Ir. Nizam Nazar Email address: nizamnazar@galaxyaerospace.my
Chief of Airworthiness Office	Nur Farhana Othman Email address: farhana@galaxyaerospace.my
Chief of Independent Monitoring Office	Ahmad Muzrim Mustazar Email address: muzrim@galaxyaerospace.my
Registered Address/Contact Number	Suite 11-14, Helicopter Centre, Malaysian International Aerospace Centre, Sultan Abdul Aziz Shah Airport, 47200 Subang, Shah Alam, Selangor Darul Ehsan, Malaysia. Tel: +603 7734 7226 Fax: +603 7734 7526

1.3 Location

GAM DO office is located in GAM headquarter at Malaysia International Aerospace Centre as shown in Figure 1.

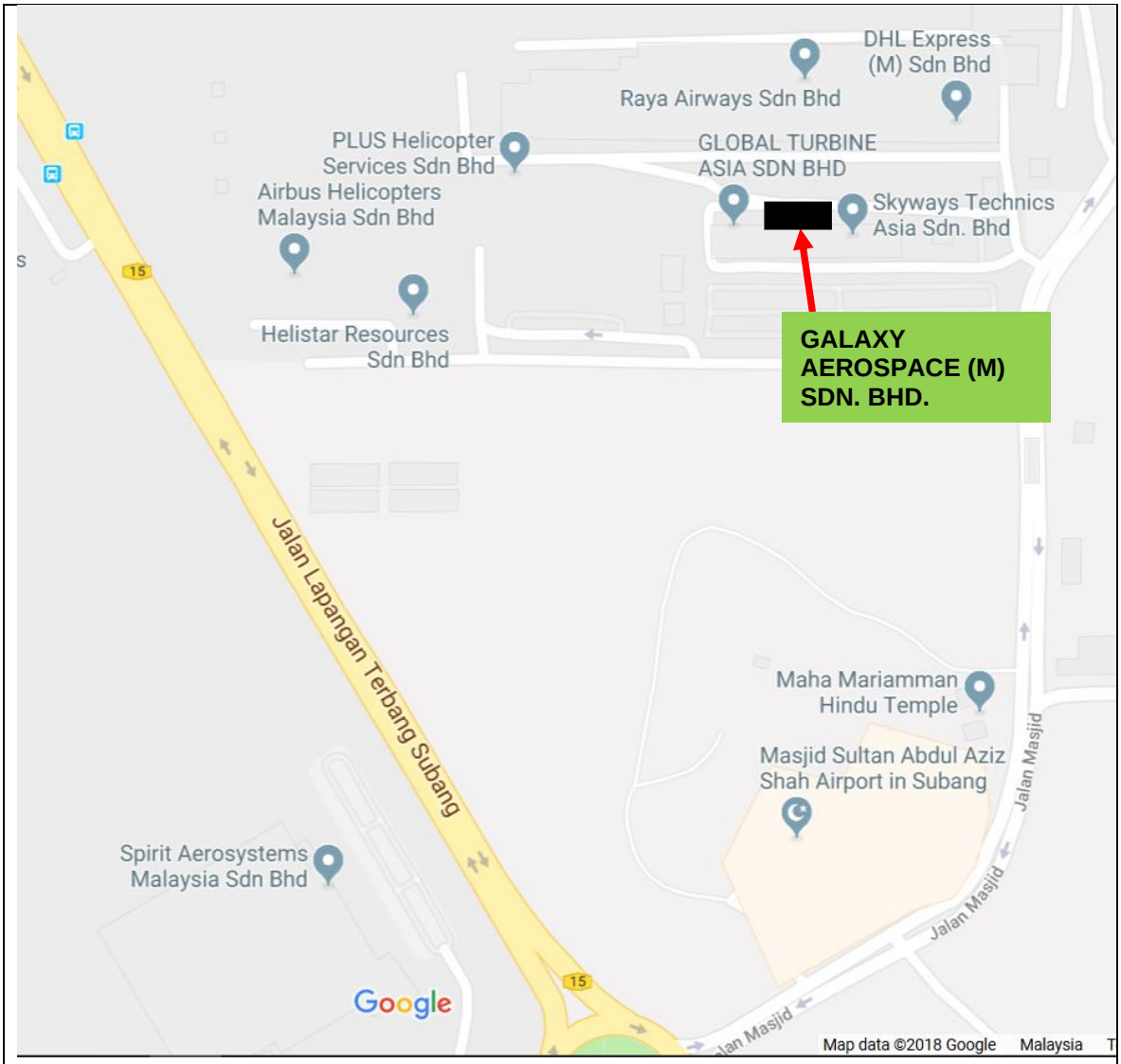


Figure 1: GAM DOA Office Location

1.4 Facilities

a) GAM DO is equipped with all the necessary tools for design and development as follows:
   i) Computer Hardware: Windows based workstation are available (1 laptop or 1 desktop for each personnel).
   ii) Computer Software: Design software consist of – SOLIDWORKS, AutoCAD or any other relevant means.
   iii) Other facilities: furniture, computers, Microsoft Office, internet access, colour printer and scanner are available to support company activities

b) The facility for DO consists of individual office room for Chief Executive, HODO, COA and CIMO, workplace station for IM, CVE, SCE and DE personnel and equipped with typical office supplies such as printer(s), stationery and whiteboard as shown in Figure 2.

c) DO documentations (hardcopy) i.e. Modification Package, DOM, Procedures and Forms, are all kept securely in a DOA Technical Library (locked vault room) with access controlled by Document Management System (DMS) Administrator and Technical Publication Executive. A fire protection steel compactor storage system is provided.

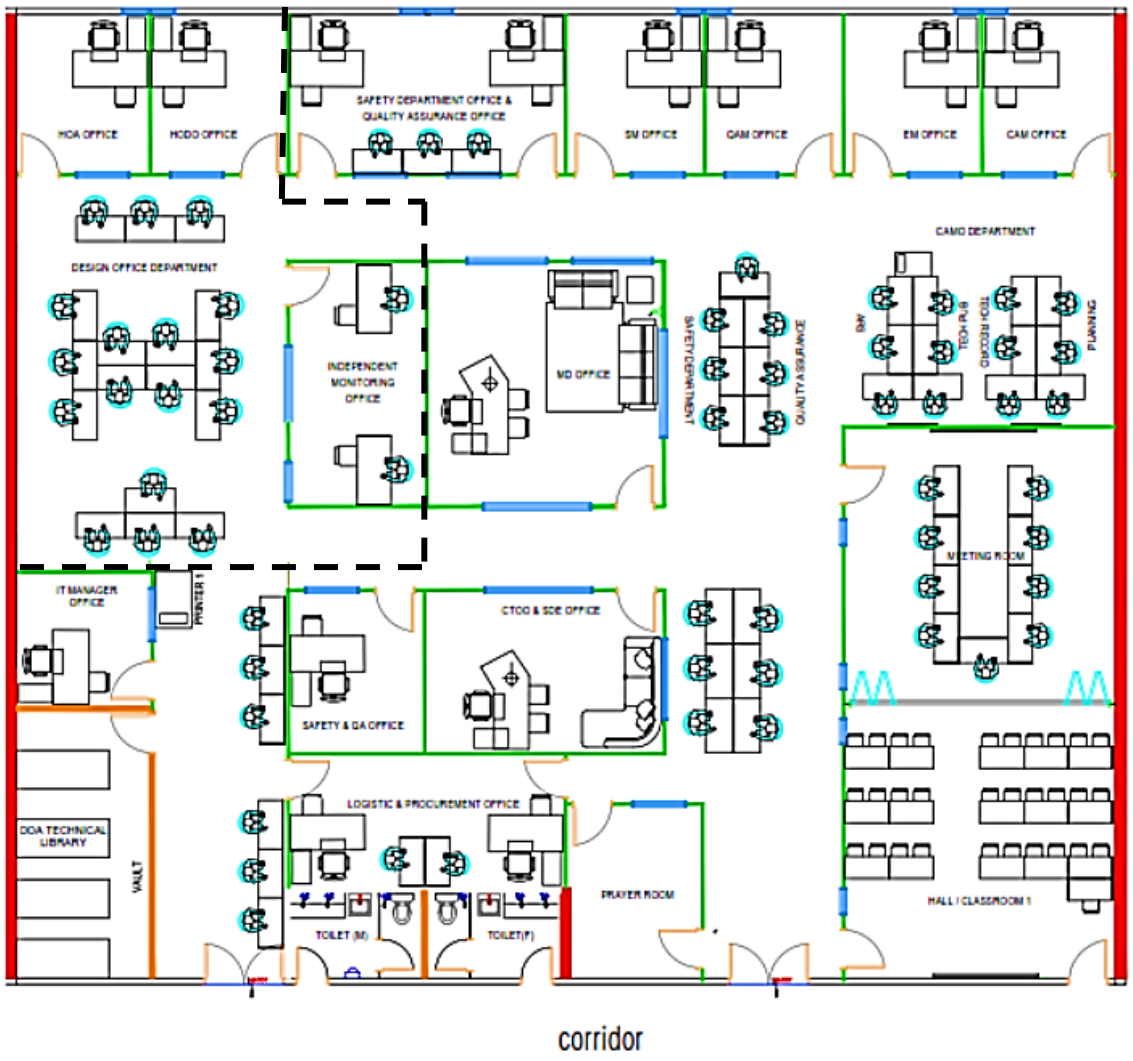
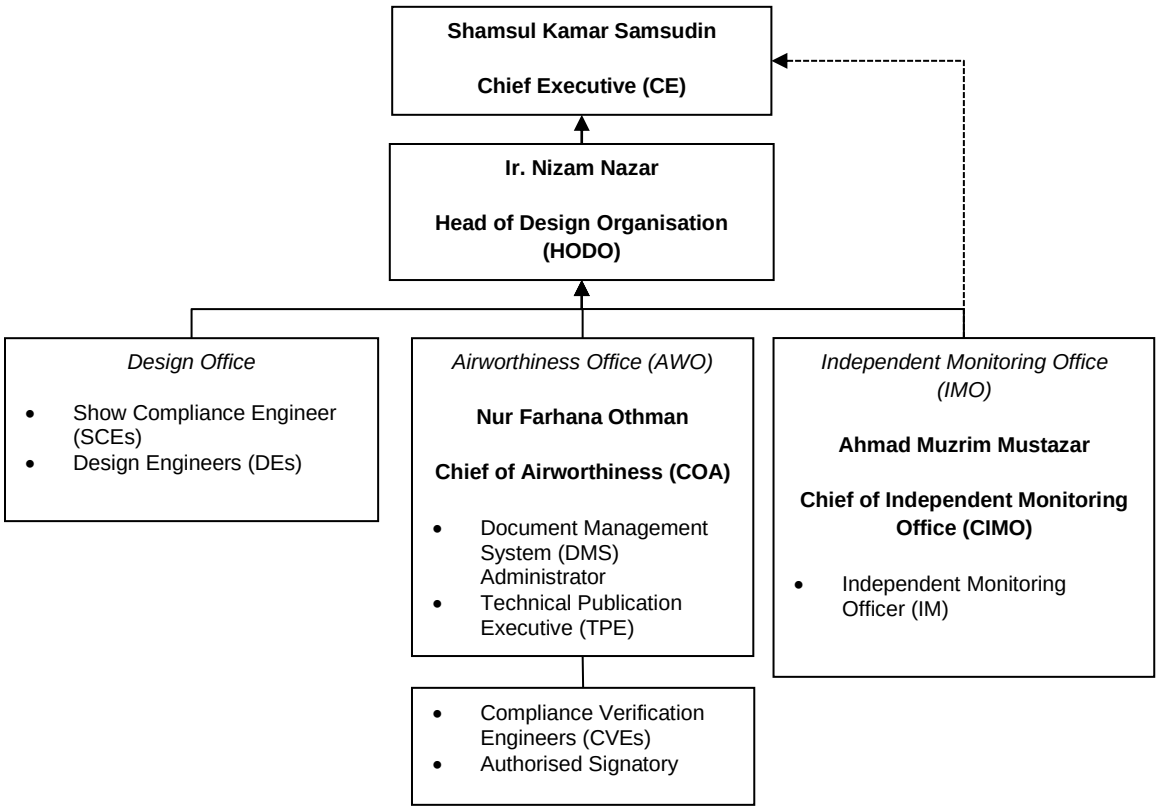
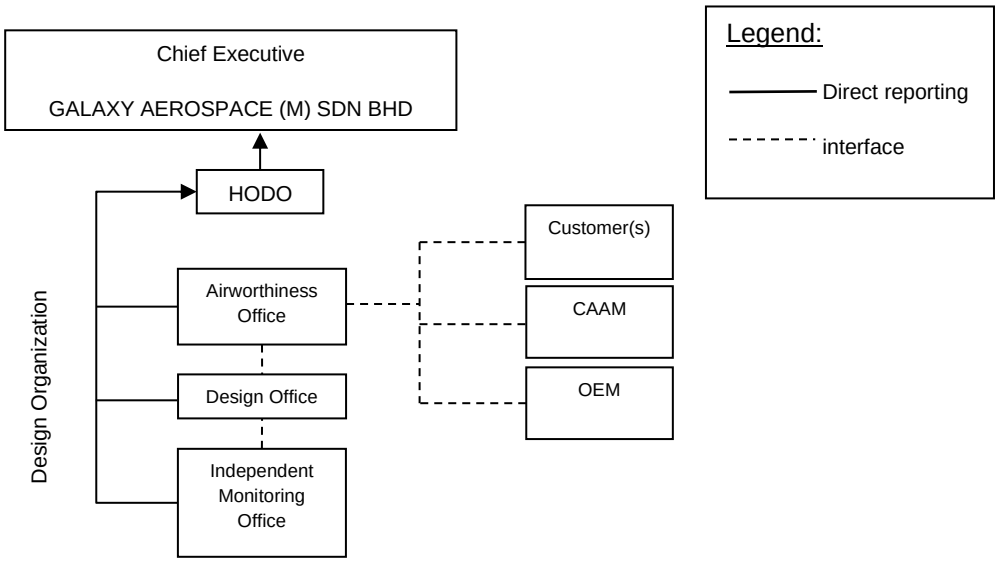


Figure 2: GAM DOA Office Plan

1.5 Organisation Chart



1.5.1 General Organisation and Interfaces



1.6 Duties and Responsibilities

1.6.1 Chief Executive

a) The Chief Executive is responsible in providing the necessary resources i.e. manpower, facility, equipment and financial, for the proper functioning of the Design Organisation.

b) In the case of lengthy absence of the Chief Executive, the functions will be delegated to the Head of Design Organisation (HODO).

1.6.2 Head of Design Organisation (HODO)

a) The HODO is directly responsible to the Chief Executive for the duties assigned to him or her.

b) The HODO responsible ensuring the satisfactory accomplishment of the design work carried out by GAM DO.

c) HODO shall ensure that the GAM DO properly discharges its responsibilities in accordance with the appropriate regulations of CAD 8401 and the GAM DO's Terms of Approval.

d) HODO shall ensure that the procedures as specified in the DOM and referenced procedures are maintained and followed.

e) HODO has overall technical responsibility for the GAM DO deliverables.

f) HODO shall ensure the continued airworthiness support and safety of the product designed, changed or repaired by the GAM DO.

g) HODO shall be nominated by the Chief Executive in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01) and application shall be submitted to CAAM for which a statement of qualification and experience is furnished.

h) In the case of lengthy absence of the HODO, the functions shall be delegated to the Chief Executive via the Management of Change (form GAM/QA-011) procedure.

i) HODO shall verify and approve the DOM.

j) HODO shall declare modification compliance on the Declaration of Compliance (DC) form.

k) HODO shall approve minor changes and minor repairs on the Declaration of Compliance (DC) form.

l) Qualification Criteria for HODO:

   i) At least a holder of Degree in Aerospace/ Aeronautical/ Mechanical/ Avionics/ Electrical and Electronic Engineering; and

   ii) At least one year of experience as a COA; or

   iii) At least five years' experience in Design Organisation; and

   iv) Equipped with detail knowledge of the MCAR 2016, CAD 8401 and DOM procedures and requirements; and

   v) Good management skills.

1.6.3 Airworthiness Office (AWO)

a) As a liaison office between the organisation and the CAAM, is to represent the interests of the GAM DO in matters concerning type investigation, certification and continued airworthiness.

b) The AWO is the focal point for coordinating airworthiness, OSD and environmental protection matters and reports directly to the HODO.

c) The AWO responsible for checking that all compliance documents are prepared in compliance with applicable airworthiness, OSD and environmental protection requirements, as well as for completeness, and signing for release of the documents.

d) AWO personnel consists of Chief of Airworthiness Office (COA), Compliance Verification Engineer (CVE(s), DMS Administrator and TPE. The minimum personnel required is COA and CVE(s).

1.6.3.1 Chief of Airworthiness (COA)

a) COA manages AWO and is responsible for compliance of the AWO duties as mentioned in para 1.6.3.

b) Liaison between the DO and the CAAM on all matters related to certification.

c) Ensuring that the DOM is prepared and updated as required in CAD 8401 Paragraph 6.0.

d) Issuing of guidelines for documenting compliance.

e) Ensuring procurement and distribution of applicable standards and other specifications required by GAM DO.

f) Interpretation of airworthiness, OSD and environmental protection requirements and requesting decisions of the CAAM in case of doubt.

g) Advising of all departments of the DO on matters regarding airworthiness, OSD, environmental protection approvals and certification.

h) Responsible for the project coordinator.

i) Ensuring the initiation of activities as a response to failure (accident/ incident/in-service experience) evaluation and complaints from the customer and providing of information to the CAAM in case of airworthiness is affected.

j) COA is directly responsible to the HODO and the CAAM in range of duties he or she is assigned.

k) In the case of lengthy absence of the COA, the functions shall be delegated to the HODO via the Management of Change (form GAM/QA-011) procedure.

l) COA shall be nominated by the HODO and Chief Executive in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01) and

application shall be submitted to CAAM for which a statement of qualification and experience is furnished.

m) Preparation and revision of this manual, including all herein contained regulations and procedures, are carried out by the COA.

n) Qualification Criteria for COA:

i) At least a holder of Degree in Aerospace/ Aeronautical/ Mechanical/ Avionics/ Electrical and Electronic Engineering; and

ii) At least three years of experience as a CVE; or

iii) Five years' experience in Design Organisation; and

iv) Equipped with detail knowledge of the MCAR 2016, CAD 8401 DOA and DOM procedures and requirements; and

v) Good management skills.

1.6.3.2 Compliance Verification Engineer (CVE)

a) CVEs are responsible for independent checking of prepared compliance documents within their respective technical field(s).

b) CVEs shall be nominated by the COA and HODO in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01) and application shall be submitted to CAAM for which a statement of qualification and experience is furnished.

c) The duties and responsibilities of CVEs shall include but not limited to:

i) Approval by signing of all compliance documents necessary for the verification of compliance with the applicable airworthiness, OSD and environmental protection requirements as defined in the Type Design Investigation.

ii) Approval of the technical content (completeness and technical accuracy), including any subsequent revisions of all the manuals subject to CAAM approval, such as Flight Manual Supplement (FMS) and Instructions for Continued Airworthiness (ICA).

d) The CVEs are responsible to the HODO for the duties they are assigned to and administratively reports to COA.

e) To ensure independency, CVE shall not be influenced by other personnel in performing his/her functions. CVE also shall not be directly involved during preparation of documents by Design Office personnel (DEs and SCEs).

f) CVEs are responsible to identify type certification basis to the type design change.

g) CVEs are responsible to establish the compliance checklist and updating for changes.

h) Qualification Criteria for CVE:

   i) At least a holder of holder of Degree in Aerospace/ Aeronautical/ Mechanical/ Avionics/ Electrical and Electronic Engineering; and

   ii) At least five years of design experiences in meeting the applicable airworthiness and environmental requirements; or

   iii) At least three years experiences as SCE; and

   iv) Demonstrate to have profound knowledge about the details of the compliance showing process which is defined in the DOM; and

   v) Demonstrate to have good knowledge and understanding in related requirements (MCAR 2016 and CAAM CADs), CAD 8401 DOA, airworthiness requirements and environmental protection requirements (EASA CS and FAA FAR) as well as interpretations and means to provide compliance with these requirements.

1.6.4 Independent Monitoring Office (IMO)

a) The IMO monitors independently, in accordance with CAD 8401 Para 5.2 (c), the compliance with and adequacy of the DAS.

b) The IMO is responsible to independently monitor the compliance with, and the adequacy of the documented procedure of the system.

c) The IMO shall conduct the internal audit minimum twice a year, as well as consistency and compliance to the defined procedures.

d) IMO personnel consist of Chief of Independent Monitoring Office (CIMO) and Independent Monitoring Officer (IM). The minimum personnel required is CIMO.

1.6.4.1 Chief of Independent Monitoring Office (CIMO)

a) CIMO manage IMO and is responsible for compliance of the IMO duties and responsibilities.

b) CIMO shall be nominated by the HODO and Chief Executive in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01) and application shall be submitted to CAAM for which a statement of qualification and experience is furnished.

c) The CIMO directly reports to the HODO. However, in the event where CIMO found that HODO fail to perform his/her functions and responsibilities, CIMO shall report directly to the Chief Executive.

d) In the case of lengthy absence of the CIMO, the functions shall be delegated to the HODO through the Management of Change (form GAM/QA-011) procedure.

e) Qualification Criteria for CIMO:

   i) At least five years' experience of auditing in aviation industry; and

   ii) Have good knowledge and understanding of MCAR 2016, CAD 8401, GAM DOM and any relevant requirements.

   iii) Good management skills.

1.6.4.2 Independent Monitoring Officer (IM)

a) IM assist CIMO manage IMO and is responsible for compliance of the IMO duties and responsibilities.

b) IM shall be nominated by CIMO and approved by HODO in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01).

c) Qualification Criteria for IM:

   i) At least one-year experience of auditing in aviation industry; and

   ii) Have good knowledge and understanding of MCAR 2016, CAD 8401, GAM DOM and any relevant requirements.

1.6.5 Design Office

a) Prepare type design documents.

b) Confirms by signing of the document that the document was prepared with engineering practice, knowledge of all facts affecting its contents and is completed.

c) Performing the design changes within the terms of approval and complying with given airworthiness, OSD and functionality requirements.

d) Troubleshooting and analysing technical problems

e) Coordination / realization of changes of approved Design Data

f) Preparation and implementation of Compliance Documents with applicable certification regulations, OSD and environmental protection, including other data necessary for the compliance verification as defined in the Certification Plan

g) The Design Office personnel consists of:

   i) Show Compliance Engineer (SCE)

   ii) Design Engineer (DE)

h) All Design Office personnel shall be nominated by COA and approved by HODO in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01).

1.6.5.1 Show Compliance Engineers (SCEs)

a) SCEs are responsible to prepare the necessary documents and show compliance based on the Certification Plan (CP) or specifications.

b) The SCEs shall possess all necessary competences within the applicable technical fields, to perform the tasks within the terms of approval as shown in para 2.2.1.

c) The SCEs are directly responsible to the HODO for the duties they are assigned to.

d) The duties and responsibilities of SCEs are listed below:

   i) Calculation, measurement and evaluation of design change

   ii) Preparation of Compliance Documents (e.g. drawings, test reports, justification reports, instruction and information for continued airworthiness, compliance checklist)

e) Qualification criteria for SCEs:

   i) At least holder of holder of Degree in Aerospace/ Aeronautical/ Mechanical/ Avionics/ Electrical and Electronic Engineering; and

   ii) At least one year of design and engineering experience in the required technical field(s), and demonstrate a good understanding in related design standards; and

   iii) Demonstrate to have good knowledge and understanding in related regulatory requirements (MCAR 2016 and CAAM CADs), Airworthiness, CAD 8401, OSD and

Environmental Protection Requirements (EASA CS and FAA FAR) as well as interpretations and means to provide compliance with these requirements.

1.6.5.2 Design Engineers (DEs)

a) DEs are responsible to prepare the necessary documents with the similar duties and responsibilities as those of a SCE, except that they are not authorised to show compliance to airworthiness, OSD and environmental protection requirements.
b) The DEs are directly responsible to the HODO in the range of duties they are assigned to.
c) Qualification criteria for DEs:
   i) At least holder of Degree in Aerospace/ Aeronautical/ Mechanical/ Avionics/ Electrical and Electronic Engineering; and
   ii) Demonstrate an adequate understanding of related design standards.

1.6.6 Authorised Signatory/CVEs

a) Authorised Signatory including CVEs are person who is exercising DOA privileges and making decision affecting airworthiness, for which nomination shall be endorsed by HODO and Chief Executive in accordance with Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01). The application shall be submitted to CAAM for approval, for which a statement of qualification and experience is furnished.
b) Authorised Signatory is responsible to:
   i) Classify design changes and repairs as major or minor on the Modification Classification (MC) document;
   ii) Approve minor changes to type certificate and minor repairs;
   iii) Issue information or instructions on type design document;
   iv) Approve minor revisions (limited to documentary changes) to the aircraft Flight Manual Supplements (FMS) as per GAM/DOA.P08.
c) CVE is responsible to approve the technical content of the compliance documents. CVE signature on the ‘‘Verified & Approved by” column indicate the approval of the compliance document.

d) The names and signatures of the Authorised Signatory and CVE are listed in Appendix A - Signatories List.

1.6.7 Staff of the Design Organisation

a) HODO is responsible to assure that there are sufficient trained staffs in the DO. COA is responsible to coordinate the training requirement for DO staff. The necessity for training is annually determined and projected in a training plan. If necessary, additional training will be identified during management review meeting.

b) The training plan comprises as follows but not limited to:
   i) Design Organisation Principle and requirements Training (e.g.: CAD 8401)
   ii) Design Organisation Manual (DOM) familiarisation.
   iii) Airworthiness Standard FAR & CS 23, 25, 27 and 29

c) For further details on management of Design Organisation personnel including trainings required and records, refer to Assessment Criteria for Design Organisation Personnel procedure (GAM/DOA.P01)

Chapter 2.0 - Terms of Approval

2.1 Certificate

CAAM/AW/0102-00
010521

CIVIL AVIATION AUTHORITY OF MALAYSIA

CERTIFICATE OF APPROVAL

APPROVAL NUMBER: DOA/2020/01

Pursuant to regulation 21 of Civil Aviation Regulations 2016
and subject to the conditions specified below, the following organisation:

GALAXY AEROSPACE (M) SDN BHD
Suite 11-14, Helicopter Centre,
Malaysia International Aerospace Centre,
Sultan Abdul Aziz Shah Airport,
47200 Subang
SELANGOR

is approved as a **DESIGN ORGANISATION**

in accordance with Civil Aviation Directive (CAD) 8401

CONDITIONS:

1. The approval is limited to that specified in the Terms of Approval,
2. This approval requires compliance with the procedures specified in the latest revision of the **Design Organisation Manual**, as specified in the Terms of Approval,
3. This approval is valid whilst the approved **Design Organisation** remains in compliance with CAD 8401; and
4. Subject to compliance with the foregoing conditions, this approval shall remain valid until the expiry date, as specified in the Terms of Approval, unless surrendered, suspended or revoked.

CAPTAIN CHESTER VOO CHEE SOON
for Civil Aviation Authority of Malaysia

Date of initial issue:	09-Jul-2020
Date of renewal:	09-Jul-2021
Date of revision:	-
Revision number:	00

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2.2 Scope of Work

GAM DO is approved to Category 3B Restricted Technical Fields and shall operate within the terms of approval stated in the table below:

Category	3B Restricted Technical Fields

Kind of Products	**Classification**	**Technical Fields**
1) Small Rotorcraft	Minor changes and minor repairs	1) Installation of avionics equipment
		2) Structure
		3) Electrical Systems
		4) Cabin Interiors
2) Large Rotorcraft	Minor changes and minor repairs	1) Installation of avionics equipment
		2) Structure
		3) Electrical Systems
		4) Cabin Interiors
3) Small Aeroplane	Minor changes and minor repairs	1) Installation of avionics equipment
		2) Structure
		3) Electrical Systems
		4) Cabin Interiors
4) Large Aeroplane	Minor changes and minor repairs	1) Structure
		2) Cabin interiors

Limitations:

1) Installation of avionics equipment
   a) Limited to Small Rotorcraft, Large Rotorcraft and Small Aeroplane;
      i) Limited to avionics products installation e.g.: TSO/ETSO items, ELT system, navigation system, communication system, tracking system, recording system.
2) Structure
   a) Limited to Small Rotorcraft and Small Aeroplane;
      i) Limited to changes and repairs on metallic airframe structure only;
      ii) Limited to changes and repairs on secondary structure only;
      iii) Limited to changes and repairs that do not require Fatigue and Damage Tolerance analysis.

b) For Large Rotorcraft and Large Aeroplane, limited to installation of external placards and markings only;

c) Structural provision for Installation of avionics equipment, electrical system and cabin interiors.

3) Electrical System

a) Limited to Small Rotorcraft, Large Rotorcraft and Small Aeroplane;

b) Limited to changes and installation on electrical distribution system and lighting system.

4) Cabin Interiors

a) Installation of TSO/ETSO items;

b) Limited to changes and repairs on cabin and flight deck interiors (Carpet, Placards and Markings, safety equipment and cabin amenities installation)

NOTE: GAM/DOA.P04 should be used as a guidance for DO staff.

2.3 Changes to the term of approval

Any changes in the terms of approval shall be submitted to the CAAM for approval in accordance with Chapter 3.2 – Significant Changes to DAS.

2.4 Privileges

GAM DOA is entitled, subject to terms of approval and under the relevant procedures of the design assurance system:

i) to classify changes to the type certificate and repairs as 'major' or 'minor';

ii) to approve minor changes to type certificate and minor repairs;

iii) to issue information or instructions containing the following statement:
'The technical content of this document is approved under the authority of the DOA ref. no. (DOA/2020/01)';

iv) to approve minor revisions to the aircraft flight manual supplements, and issue such revisions containing the following statement:
'Revision no. (XX) to the AFM Supplement ref. (xx) is approved under the authority of the DOA ref. no. (DOA/2020/01)';

v) to prepare and submit data packages for major modifications and major repair

2.5 Non-Transferability

GAM DOA is not transferable.

2.6 Surrender of Revocation of Approval

In the event of GAM DOA has been surrendered or revoked by CAAM, GAM shall stop exercising privileges granted to them as DOA. Upon surrender or revocation, the certificate shall be returned to the CAAM.

Chapter 3.0 - Design Assurance System (DAS)

3.1 DAS Function

DAS is the organisational structure, responsibilities, procedures and resources to ensure the proper functioning of the DO. GAM DO shall demonstrate that it has established and is able to maintain a DAS for the control and supervision of the design changes. The implementation and maintenance of the DAS is the responsibility of the HODO. DAS enable GAM DO to:

a) Ensure that the design of changes comply with the applicable type certification basis, the applicable OSD certification basis and environmental protection requirements.
b) Ensure that its responsibilities are properly discharged in accordance with the appropriate provisions of CAD 8401.
c) Independently monitor the compliance with, and adequacy of the documented procedures of the system which shall include a feed-back system to a person or a group of persons having the responsibility to ensure corrective actions.
d) Ensure an independent checking function of the showings of compliance.

3.2 Significant Changes to the DAS

The following changes to the DAS, in accordance with CAAM DOA Handbook chapter 9.0, should be considered as “significant” to the showing of compliance or to the airworthiness or environmental protection of the products:

a) Changes in the organisation that contribute directly to the airworthiness, operational suitability or environmental protection (AWO or the independent checking function)
b) Change of the management staff (CE, HODO, CIMO and COA)
c) Substantial reduction in number and/or experience of staff
d) Change of facilities which could affect the DOA.
e) Change of ownership
f) Change of the terms of approval
g) Change to the principles of procedures related to:
    i) The design change procedure
    ii) The continued airworthiness procedure
    iii) The classification of changes to the type design as “major” or “minor”
    iv) The approval of the design of minor change and minor repair
    v) The issue of information and instructions under the privilege of DOA

Significant changes to the DAS shall be submitted to CAAM for approval prior to their implementation. The HODO is responsible for submitting the application for approval in writing to the CAAM at least minimum 30 days.

3.3 Independent Monitoring

Independent monitoring of the DAS is delegated by HODO to the CIMO. Independent Monitoring Office (IMO) assures that GAM DO to be audited two times a year for compliance with this DOM, in accordance with the Audit procedure (GAM/DOA.P15) and para 13.0 (Findings) of the CAD 8401 requirements.

3.3.1 Auditing

a) The IMO has the task of coordination and administration of the internal audit system i.e. audit planning, report preparation, corrective action tracking, archiving and performing the audits. Findings from the audit shall be in line with the CAAM Audit Findings in terms of level of finding and corrective action period.

b) In the case of GAM DO fails to comply with any requirements of CAD 8401 and DOM, the finding shall be divided into three (3) levels as follows:

   i) Level one finding is any non-compliance with CAD 8401 and DOM which could lead to uncontrolled non-compliance with applicable requirements and which could affect the safety of the aircraft. The GAM DO shall demonstrate corrective action to the satisfaction of the IMO within a period of no more than 21 working days after written notification of the finding.

   ii) Level two finding is any non-compliance with CAD 8401 and DOM which is not classified as level one. The GAM DO shall demonstrate corrective action to the satisfaction of the IMO within a period of no more than 3 months after written notification of the finding. In certain circumstances and subject to the nature of the finding, the IMO may extend the 3 months period subject to a satisfactory corrective action plan agreed by the IMO.

   iii) Level three finding is any item where it has been identified, by objective evidence, to contain potential problem that could lead to any noncompliance under paragraph (i) and (ii) above. In the case of a level three finding, demonstrate corrective action to the satisfaction of the IMO within a period which may be determined by the IMO.

3.3.2 Reporting

The CIMO shall report periodically to the Chief Executive and HODO about audit results and findings, corrective actions and timely follow-up of corrective actions. CIMO shall also inform the Chief Executive on any irregularities.

3.3.3 Special Audit

A Special Audit is performed when there is a significant change to the DAS or major deficiencies detected. This special audit shall be performed prior to obtain CAAM approval or after major deficiencies detected.

3.3.4 DAS Assessment

CIMO prepares a yearly assessment of the DAS. This assessment forms the basis for staff trainings and internal audits for upcoming years. The assessment contains:

a) Analysis of the effectiveness of the DAS (organization, responsibilities, procedures, resources)
b) Corrective actions initiated (e.g. changes to the DAS) as a result of non-compliances
c) Recommendations

3.4 Engineering Review

An Engineering Review shall be carried out to check all important points of the design. The AWO assures that Engineering Reviews are planned and carried out in a timely manner in accordance with Engineering Review procedure (GAM/DOA.P16).

3.5 Management Review

A Management Review meeting shall be conducted annually. Participants of the review meeting shall consist of CE, HODO, COA and CIMO. CE is responsible to chair the meeting and COA is responsible to coordinate the meeting. Minutes of meeting for the review shall be minuted in form GAM/DOA.F.039. Agenda of the meeting shall include but not limited to:

a) Audit findings i.e. CAAM audit and Internal audit results
b) DOM and procedures
c) DAS Assessment

3.6 Design Review Meeting

A periodic design review meeting with CAAM (by invitation) on implemented modification data is performed every six months. HODO is responsible to chair the meeting and COA is responsible to coordinate the design review meeting. Participants of the design review meeting shall consist of HODO, COA, CIMO, CVE and CAAM representative. The design review meeting shall be recorded, and any finding raised shall be treated as per para 3.3.1 (b).

Chapter 4.0 - Type Design Investigation

4.1 General

a) The objective of design activities in GAM DO is to produce a reliable design in compliance with applicable airworthiness specifications, OSD and environmental protection requirements.

b) Type Design is a specification necessary to define the configuration and the design features of the product shown to comply with the requirements applicable to the product. The necessary procedures therefore are described in the following paragraphs.

c) The HODO is responsible overall for type design investigation. Type design investigation is initiated to investigate and show compliance for the proposed modification with the applicable certification basis and to verify that the design characteristics do not introduce an unsafe feature to the aircraft. Furthermore, the preparation and verification of the compliance documents, including documents necessary for the continued airworthiness and safe operation of the aircraft such as supplements to the Flight Manual and ICA, must be assured. The development and the certification of a modification also require that various analysis and tests to be performed when required.

d) The AWO shall be responsible for coordinating type investigation and ensuring completeness of all proofs of compliance.

e) SCE is responsible to prepare the compliance documents. Showing of compliance shall not be carried out by the same person who will verify and approve the compliance.

f) The CVE shall verify the individual compliance documents according to the certification basis and approve by signing the documents.

g) A Declaration of Compliance shall be issued by the HODO as per para 4.3.6 (b).

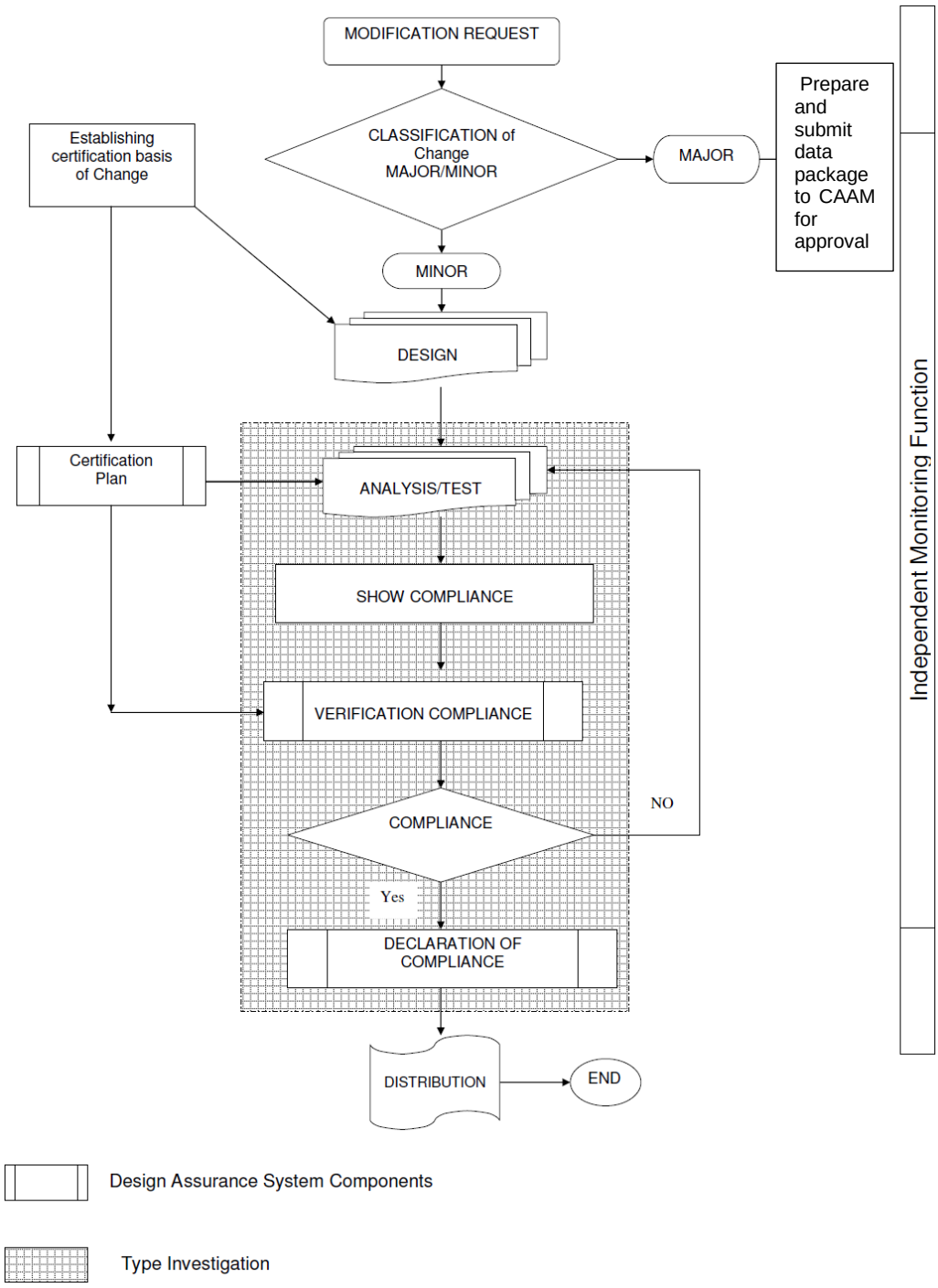
h) In summary, DO performs the following tasks:

   i) Type design investigation within the terms of approval

   ii) Providing showing of compliance through preparation of compliance documents

   iii) Verification and declaration of compliance

4.2 Schematic Illustration of Design, Design Assurance and Type Design Investigation



4.3 Method and Procedures

4.3.1 Modification Request

A modification and/or repair request is raised by customer through a Modification Request Form. AWO shall verify and ensure that the modification request is within the terms of approval. Refer Modification Request procedure (GAM/DOA.P02) for detailed procedure.

4.3.2 Change Classification and Certification Basis Establishment

a) Following the modification and/or repair request, change classification and certification basis establishment is defined by the AWO.

b) Type Certification Basis shall be analysed for the aircraft to be modified. Refer to the Type Certification Data Sheet (TCDS) of the aircraft and check the applied.
   i) Applicable Airworthiness Requirements
   ii) Special Condition, Equivalent Safety etc

c) Is the change significant or not? For examples of significant changes shall be referred to appendix D.
   i) Is there a Change to the General Configuration? Appendix D, 21A.101(b)(1)(i)
   ii) Is there a Change to the Principles of Construction? Appendix D, 21A.101(b)(1)(i)
   iii) Have the assumptions used for Certification been invalidated? Appendix D, 21A.101(b)(1)(ii)

d) If one of the above requested answers is yes (significant change), refer GM 21A.101 for further investigation on how to proceed for establishing the Certification Basis.

e) If all the above requested answers are no, the applicable Certification basis is the one determined in the TCDS of Step 1 of this procedure.

f) The steps of the classification procedure and the result shall be documented in form (GAM/DOA.F.002).

4.3.2.1 Classification of Change to Type Design

a) For classifying the changes to the type design as “minor” or “major”, it is required to proceed in accordance with Classification of Changes to Type Design procedure (GAM/DOA.P03) which have been developed as per CAAM CAD and CAAM DOA Handbook. If the change is classified as major, GAM DOA shall prepare and submit data package to CAAM for approval in accordance with GAM/DOA.P20 procedure.

b) A ‘minor modification’ has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, operational suitability data, or other characteristics

affecting the airworthiness of the product or its environmental characteristics. Without prejudice to paragraph 9 of CAD 8102, all other modifications are 'major modifications'.

c) Refer Appendix C - Classification Criteria for Major and Minor Design Change.

d) CVE is responsible to prepare the classification of change by using the Modification Classification Form (GAM/DOA.F.002) and it shall be approved by an Authorised Signatory (Refer Appendix A - Signatories List). Whenever there is doubt with respect to the classification, AWO shall consult CAAM for clarification.

4.3.2.2 Establishment of the Certification Basis of Change to Type Design

a) A minor modification or minor repair shall only be approved:

   i) when it has been demonstrated that the change and areas affected by the change comply with the type certification basis and the environmental protection requirements incorporated by reference in the type certificate;

   ii) in the case of a change affecting the OSD, when it has been demonstrated that the necessary changes to the OSD comply with the OSD certification basis incorporated by reference in the type certificate;

   iii) when compliance with the type certification basis that applies in accordance with para 4.3.2.2 c) i) of this DOM has been declared and the justifications of compliance have been recorded in the compliance documents; and

   iv) when no feature or characteristic has been identified that may make the product unsafe for the uses for which certification is requested.

d) By derogation from para 4.3.2.2 c) i) of this DOM, airworthiness codes which became applicable after those incorporated by reference in the type certificate can be used for approval of a minor change, provided they do not affect the demonstration of compliance.

e) An approval of a minor modification shall be limited to the specific configuration(s) in the type certificate to which the modification relates.

f) A major modification or major repair shall only be approved when it has been demonstrated that the modification/ repair and areas affected by the modification/ repair comply with the type certification basis and the environmental protection requirements, as established by CAAM CAD 8104, para 8 and CAAM CAD 8106.

g) The establishment of the certification basis of change to the type design shall be recorded in the CP.

4.3.3 Certification Plan (CP)

a) Certification Plan (CP) is to define all applicable airworthiness codes which are necessary to show the airworthiness of the minor change or minor repair.

b) The Certification Plan is the binding document for planning and conducting the showing of compliance process.

c) CVE is responsible for preparing the CP and COA shall approve the CP accordingly. For major change/repair, the CP shall be approved by CAAM.

d) COA and CVE shall review all information required for CP as follows:

i) all relevant Airworthiness Directives (ADs) to ensure validity of ADs with respect to affected area of minor change or minor repair;

ii) Service Bulletin (SBs);

iii) Supplement Type Certificate (STC) which have already embodied to aircraft;

iv) requirement for Instruction for Continued Airworthiness (ICA);

v) requirement for Flight Manual Supplement (FMS);

vi) determination of applicable airworthiness requirements and means of showing compliance;

vii) list of compliance documents;

viii) project schedule;

ix) nominated SCE(s) and CVE(s);

x) resource plan requirements.

e) Means of Compliance

A standard list of means of compliance is adopted by the GAM DO for showing compliance to airworthiness requirements and shall be clearly stated in the CP. The following codification shall be used for specifying means of compliance:

A. Engineering Evaluation

MC0 **Compliance Statement**

- Direct answer in Compliance Checklist document
  - Definition taken into account
  - Application of a required factor
  - Reference to Type Design documents, required manuals, engineering standard, process specification
  - Reference to other requirements

MC1 **Design Review**

- Any document of descriptive nature
  - Descriptive Note / Technical Note
  - Technical Specifications
  - Drawings

MC2 **Calculation, Analysis**

- Substantiation report based on analysis or calculation
  - Structural analysis, Dynamic analysis, Aeroelastic evaluation report, Analysis of experimental data, Demonstration by analogy, Electrical load analysis, Synthesis report

MC3 **Safety Assessment**

- System Safety Assessment
- Risk Minimization Analysis
- Design Assessment
- Critical Parts Plan

B. Tests

MC4 **Laboratory Tests**

- Any testing on components, sub-assemblies, sub-systems or systems, except testing on aircraft itself
- Associated compliance documents (Test Plan / Report)

MC5 **Ground Tests**

- Testing on aircraft itself
- Associated compliance documents (Test Plan / Report)

MC6 **Flight Tests***

- Testing on aircraft in flight
  - when required (performance, handling qualities, cooling)
  - whenever compliance cannot be fully shown by other means (crew workload, failure assessment)
- Associated compliance documents (Test Plan / Report)

MC8 **Simulation***

- Simulator testing
  - for safety reasons (hazardous failure conditions assessment), or
  - for economic reasons (to reduce flight testing)

- Associated compliance documents (Test Plan / Report)

C. Inspection

MC7 **Inspection**

- Design inspection
  - Conformity inspection on manufactured articles
  - Compliance Inspection
  - Authorities inspection on aircraft of complex installations or specific features difficult to assess differently
- Software/Hardware Audit
  - Authorities audit of software or complex electronic hardware Development

D. Equipment Qualification

MC9 **Equipment Qualification**

- Process which may include all previous means of compliance to provide evidence of adaptation for use on the aircraft
- Equipment qualification processing depending on:
  - Safety classification
  - Experience
  - Novelty of technology used
- Associated compliance documents:
  - Qualification reports (equipment, software, tool, hardware)
  - Declaration of Design and Performance (DDP)

NOTES: * The above list of means of compliance covers all the requirement. Some of the means of compliance may not be applicable to GAM DOA.

4.3.4 Showing of Compliance

a) Major change/repair and minor change/repair shall undergo a type design investigation as applicable.

b) The DMS administrator from AWO is responsible for managing configuration control including assigning document identification running number for all type design documents, by conforming to standardized format as given in Type Design Documentation procedure (GAM/DOA.P05).

c) SCE shall follow steps listed below:

i) Retrieve compliance document templates from AWO

ii) Develop investigation information and requirement for the modification in reference to acceptable data (e.g.: FAA Handbook, Advisory Circular, OEM Data, SAE ARP and RTCA-DO)

iii) Perform the investigation (e.g.: analysis, calculation, inspection and test)

iv) Compliance inspection, testing and conformity shall be performed as per Type Design Documentation procedure (GAM/DOA.P05)

v) Records all results and analysis on the compliance documents

vi) Submit the completed compliance documents including CC to CVE for independent checking

d) Compliance documents are used for showing compliance to applicable airworthiness, OSD and environmental protection requirement. The kinds of Compliance Documents applicable to the DO are summarised in the table below:

A. Engineering Drawings • General Arrangement • Structural Drawings • Wiring Diagrams
B. Justification Reports • Structure (Safety Assessment, Structural Analysis, Flammability) • Avionics (Safety Assessment, Environmental Protection, Electrical Load Analysis, EMI/EMC) • Cabin Compliance Inspection Report (CCIR)
C. Test Reports • Ground Test Plan (GTP) • Ground Test Report (GTR)
D. Information and Instructions for Continued Airworthiness • Instructions for Continued Airworthiness (ICA)
E. Compliance Checklist • Compliance Checklist (CC)
F. Modification Document • Modification Document (MD)

4.3.5 Signature Rules

The preparation, approval and verification of compliance documents takes place by signatures on the cover sheets, with the rules stated below:

a) “Prepared by”

This signature field signifies the technical definition and showing of compliance by SCE in respective technical field.

b) “Verified & Approved by”

i) This signature field signifies the independent checking by a CVE.

ii) All compliance documents shall only be approved and signed by CVE in respective technical field.

iii) CVE shall verify the compliance with all applicable airworthiness, OSD and environmental protection requirements and approve by signing the documents.

iv) In order to guarantee independent checking, the “Prepared by” and “Verified & Approved by” signatures shall not be given by the same person.

c) “Released by”

This signature field signifies that the documents have been validated for completeness and approved for release by COA/Authorised Signatory.

4.3.6 Master Document List (ML)

The Master Document List (GAM/DOA.F.013) is a configuration management document, listing all type design documents. It is also used to track revision and applicability of each document. Type design documents as shown below shall be included in the ML accordingly:

No.	Type Design Document
1	Certification Plan
2	Modification Classification
3	Compliance Documents
4	Compliance Checklist
5	Modification Document
6	Design Repair Approval Sheet
7	Flight Manual Supplement

4.3.7 Declaration of Compliance (DC)

a) The completion of type design investigation shall be confirmed by the signature of HODO on the DC.

b) In the case of lengthy absence of HODO, the function of approving the DC shall be delegated to the COA.

c) A signature of HODO on the DC confirms that:

   i) The change has been subject to investigation and it has shown to fulfil the applicable OSD, airworthiness and environmental protection requirements.

   ii) The change has no features or characteristics impairing safe operation.

   iii) The applicable policies and procedures laid down in the latest approved Design Organisation Manual (DOM) have been followed.

   iv) Type Design Investigation is completed.

   v) The document listed in the List of Data above have been verified and approved.

   vi) The change is approved under the DOA Approval Number DOA/2020/01.

d) Declaration of Compliance shall be carried out using form GAM/DOA.F.015.

4.3.8 Approval of Minor Change or Minor Repair

Approval of minor change or minor repair are granted through the Declaration of Compliance (DC) form and duly signed by HODO.

4.3.9 Implementation of Minor Change or Minor Repair

The implementation of minor change or minor repair shall be executed by customer using the Modification Document (MD) or Design Repair Approval Sheet (DRAS) respectively. Refer chapter 6.1.4 for details.

4.4 Recording/Configuration Management

a) The management of design change, including assignment of modification number, drawing number(s), ICA number etc, documenting status of data approvals, shall be implemented according to Type Design Documentation procedure (GAM/DOA.P05).

b) The Document Management System (DMS) Administrator is responsible for:
   i) Raising new modification number;
   ii) Raising new technical publications reference number;
   iii) Creating a new digital working folder;
   iv) Ensuring type design documents completeness and archiving digitally;
   v) Updating status on Master Database;
   vi) Distributing type design documents to customer.

c) Technical Publication Executive (TPE) is responsible for:
   i) Archiving paper copy of type design documents in the library;

4.5 Document Record Keeping and Distribution

a) The DO shall keep the type design documents for at least 2 years after the aircraft has been written off or permanently withdrawn from the service.

b) The type design documents shall be filed in hardcopy in the Technical Library and digitally in the DO server.

c) The applicable type design documents shall be properly distributed to the customer and shall be stamped with ‘CONTROLLED COPY’.

d) The original signed copy of all the type design documents shall be archived by the TPE according to the assigned Technical Publications reference number. The TPE shall ensure that the front page of all documentation be stamped with ‘MASTER COPY’.

e) Revision to type design documents shall take place when changes are required. New revision of the document shall have next higher number from the previous.

f) All superseded documents shall be stamped with ‘SUPERSEDED’.

g) The original copy shall NOT be taken out of the Technical Library without the consent of the DMS Administrator or TPE. All movement of the original copy shall be recorded accordingly by DMS Administrator or TPE.

h) CAAM shall have access to all type design documents.

Chapter 5.0 - Repairs

a) If the repair of damage is not covered by an existing repair solution according to the Repair Manual or other approved data, the damage details shall be forwarded by the customer to the DO.

b) An Authorised Signatory is responsible for classification of major or minor repair as defined below:

   i) Major repair means any repair of an aeronautical product that might appreciably affect the structural strength, performance, engine, operation flight characteristics or other qualities affecting airworthiness or environmental characteristics.

   ii) Minor repair means a repair other than a major repair.

c) If classified as major, GAM DO shall prepare and submit data package to CAAM for approval in accordance with GAM/DOA.P20 procedure.

d) If classified as minor, the GAM DO shall proceed with design repair in accordance with Chapter 4.0 Type Design Investigation and Repair Process Management procedure (GAM/DOA.P13).

e) Design Repair Approval Sheet (DRAS) (GAM/DOA.F.024) shall be used as a formal document for repair approval.

f) Design repair shall be approved by HODO utilising form GAM/DOA.F.015 (Declaration of Compliance).

Chapter 6.0 - Continued Airworthiness

6.1 Issuing of Information and Instructions for Continued Airworthiness

Design changes may lead to producing the type design documents relevant to the operation and maintenance of the aircraft. Such documents typically consist of the following:

a) Flight Manual Supplement (FMS)
b) Instructions for Continued Airworthiness (ICA)
c) Modification Document (MD)
d) Design Repair Approval Sheet (DRAS)
e) Alert Service Bulletin (ASB)

6.1.1 Flight Manual Supplement (FMS)

a) The FMS contains instructions and information necessary to the flight crew for the operation of the modification installed on the aircraft.
b) GAM DO activities with regards to documentation includes (GAM/DOA.P08):
   i) Preparation of new FMS in accordance with Management of Flight Manual Supplements procedure when required for minor design change. FMS shall be submitted to CAAM for approval.
   ii) Revisions to FMS (documentary changes only) previously issued by the GAM DO and shall contain the following statements

   “Revision no. xx to the FMS reference number GAM/xxx/FMS is approved under the authority of the DOA ref. no. DOA/2020/01”.

c) Only the following documentary changes of FMS are issued according to FMS procedure (GAM/DOA.P08) for preparation and change of FMS without further involvement of CAAM:
   i) Editorial changes or corrections to the FMS
   ii) Conversions of units of measurement added to the FMS.
   iii) The addition of aircraft serial numbers to an existing FMS where the aircraft configuration is identical.
   iv) The removal of reference to aircraft serial numbers no longer applicable to that FMS.

6.1.2 Instructions for Continued Airworthiness (ICA)

a) For minor change and minor repair, when maintenance instructions are necessary, supplements to existing ICA shall be prepared and issued to the customer. The ICA consists of Aircraft Maintenance Manual and Illustrated Parts Catalogue affected by the design change. If changes to ICA is required, the revised ICA shall also be issued to customer.

b) Preparation of ICA by SCE, verification and approval by CVE and release by Authorised Signatory shall be carried out utilizing Instructions for Continued Airworthiness form (GAM/DOA.F.009).

6.1.3 Modification Document (MD) / Design Repair Approval Sheet (DRAS)

a) MD/DRAS are documents providing details, such as planning information, accomplishment instructions and material information, which are needed to implement minor change or minor repair respectively. It is issued to provide maintenance organisation with all necessary data for the performance of installation/ repair.

b) Preparation of MD by SCE, verification and approval by CVE and release by Athorised Signatory shall be carried out utilizing Modification Document form (GAM/DOA.F.006).

c) For design repair, a Design Repair Approval Sheet (GAM/DOA.F.024) shall be prepared and approved in accordance with chapter 5.0.

6.1.4 Alert Service Bulletins (ASB)

a) An ASB serves to ensure compliance with the applicable airworthiness codes, OSD, environmental protection and CAAM requirements.

b) The ASB is issued following an in-service incident or a non-conformity with regard to certification which is an ‘unsafe condition’.

c) Compliance is mandatory.

d) In the case of ASB, as stated in chapter 6.2.6, the approval shall be given on a separate Alert Service Bulletin Approval Sheet (GAM/DOA.F.021). Refer to ASB procedure (GAM/DOA.P12) for detailed process.

6.1.5 Release of approved data

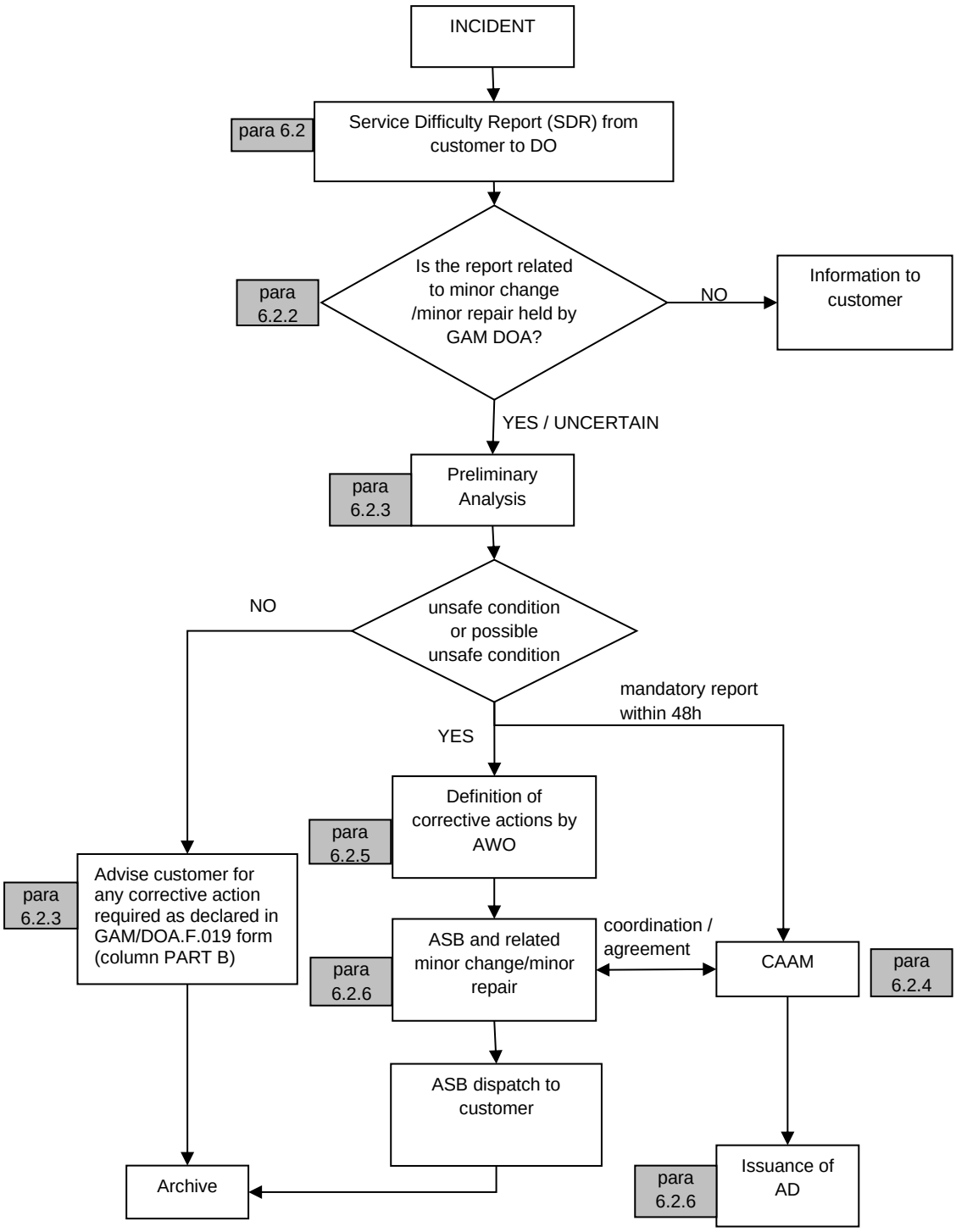
Once a minor change or minor repair are approved, the DO shall provide DC, ML, MD/ DRAS including drawing(s), the required instructions for continued airworthiness (i.e. FMS and ICA) and SDR form to customer.

6.2 In-Service Difficulty Report

a) Failures, malfunction and defects (also known as incidents) that occur in service on approved minor change or minor repair designed by the GAM DO are collected and analysed by the GAM DO and further processed when an unsafe condition on the aircraft is identified. The process is covered in para 6.2.2.

b) All data regarding those incidents are collected by the GAM DO shall be analysed by the AWO. Customers are expected to submit SDR (GAM/DOA.F.019) by filling out the form, which has been provided by GAM DO as per para 6.1.5.

6.2.1 Process Flow for In-Service Difficulty Reporting



6.2.2 Responsibility

a) The AWO investigates (if necessary, with support of the Design Office) each incident and must determine if the incident is related to an approved minor change or minor repair held by the GAM DO.

b) If the incident(s) not related to GAM DO design changes, the AWO shall inform the customer(s) and CAAM.

c) In all cases, the management of incidents is the responsibility of the AWO. For the purpose of process tracking, the SDR (GAM/DOA.F.019) shall be registered in the Master Database by the AWO.

d) The AWO is responsible for the approval of ASBs.

6.2.3 Classification of Incidents

a) The AWO conducts a preliminary evaluation in order to determine whether the incident is an unsafe condition to the aircraft.

b) According to CAAM DOA Handbook, an unsafe condition exists if there is factual evidence that:

   i) An event may occur that would result in fatalities, usually with the loss of the aircraft, or reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions to the extent that there would be:

      a. A large reduction in safety margins or functional capabilities, or

      b. Physical distress or excessive workload such that the flight crew cannot be relied upon to perform their tasks accurately or completely, or

      c. Serious or fatal injury to one or more occupants unless it is shown that the probability of such an event is within the limit defined by the applicable airworthiness requirements, or

   ii) There is an unacceptable risk of serious or fatal injury to persons other than occupants, or

   iii) Design features intended to minimise the effects of survivable accidents are not performing their intended function.

c) If the unsafe condition is identified, CAAM must be informed within 48 hours and corrective actions are to be taken in the shortest possible time frame by GAM DO.

d) If the preliminary analysis shows that there is no unsafe condition with the reported incident(s), GAM DO shall advise customer via GAM/DOA.F019 form (subject to re-issuance of data package if required).

6.2.4 Notification of Incidents Affecting Airworthiness (Unsafe Condition)

a) In cases where the incident has led or could lead to an unsafe condition, the AWO must immediately inform the CAAM.

b) Within 48 hours, the CAAM ISDR form (CAAM/AW/8503-01) together with GAM SDR form (GAM/DOA.F.019), which contains all necessary information, shall be forwarded to the CAAM.

6.2.5 Corrective Actions of Notified Failures, Malfunction and Defects

a) If initial investigation has shown that the unsafe condition exists, the AWO shall initiate a committee called Corrective Action Board (CAB) consisting of HODO, COA, CIMO and CVE. The CAB shall define further measures for investigation, analyses and corrective actions to be conducted regarding the incident.

b) GAM DO shall advise CAAM that the incident(s) is an unsafe condition and the ASB shall be issued.

c) If corrective or improvement actions in the approved minor change or minor repair become necessary, this shall be carried out in accordance with GAM DO Service Difficulty Report procedure (GAM/DOA.P11).

6.2.6 Alert Service Bulletins (ASB) / Airworthiness Directives (AD)

a) According to chapter 18.1 of CAD 8401, if it is necessary to apply corrective actions in order to restore or obtain a safe condition, the CAAM shall issue an AD. The AWO has the obligation to assist the authority by providing all necessary technical data.

b) An Alert Service Bulletin (ASB) is to be initiated with a SDR (GAM/DOA.F.019) in accordance with Service Difficulty Report procedure (GAM/DOA.P11) and prepared by the Design Office in case of failures, malfunction or defects discovered in operation or during maintenance. The prepared ASB and all related data shall be forwarded by the AWO to the CAAM for review. The data necessary for corrective actions, which shall be forwarded to the CAAM, should be approved by the CAB beforehand.

c) After CAAM agreement, the DO shall issue the ASB to all users, owners and all other persons who may be affected by the unsafe condition. Refer to Alert Service Bulletin procedure (GAM/DOA.P12) for detail.

6.3 Deviations to Approved Data

a) When there are likely to be unintentional divergencies from the approved data (e.g. drawings, specifications), the process of concession shall be applied.

b) Applicant (Customer) shall fill up PART A, B and C of the concession form as per GAM/DOA.F.018 and forward to AWO.

c) Upon receipt, AWO shall assign the concession reference number.

d) Authorised Signatory shall classify the concession as major or minor as per para e) and f) below.

e) Major Concession: Any deficiency that could adversely affect airworthiness, safety, Interchange ability, maintenance, strength, life, reliability or functioning of the item. Concession classified as Major is rejected.

f) Minor Concession: Are defined, as all other departures from specification, which cannot be classed, as MAJOR. Any minor concession shall be sentenced in Part D of GAM/DOA.F.018 form.

h) Authorised Signatory shall approve the concession.

i) The concession document shall be stored and archived in the Technical Library.

APPENDICES

APPENDIX A - SIGNATORIES LIST

i) POST HOLDERS

No.	Function	Name	Signature
1	Chief Executive (CE)	Shamsul Kamar Samsudin (SKS)	
2	Head of Design Organisation (HODO)	Ir. Nizam Nazar (INN)	
3	Chief of Airworthiness (COA)	Nur Farhana Othman (NFO)	
4	Chief of Independent Monitoring Office (CIMO)	Ahmad Muzrim Mustazar (AMM)	

ii) CVE and AUTHORISED SIGNATORY

No.	Function	Name	Signature
1	Compliance Verification Engineer (CVE) – Avionics, Electrical System	Nik Mohd Fareez Auddin (NMFA)	
2	Compliance Verification Engineer (CVE) – Cabin Interior	1. Nur Farhana Othman (NFO)	
		2. Ir. Nizam Nazar (INN)	
3	Compliance Verification Engineer (CVE) – Structure	1. Nur Farhana Othman (NFO)	
		2. Ir. Nizam Nazar (INN)	
4	Authorised Signatory	1. Nur Farhana Othman (NFO)	
		2. Ir. Nizam Nazar (INN)	

iii) NOMINATION OF DO STAFF

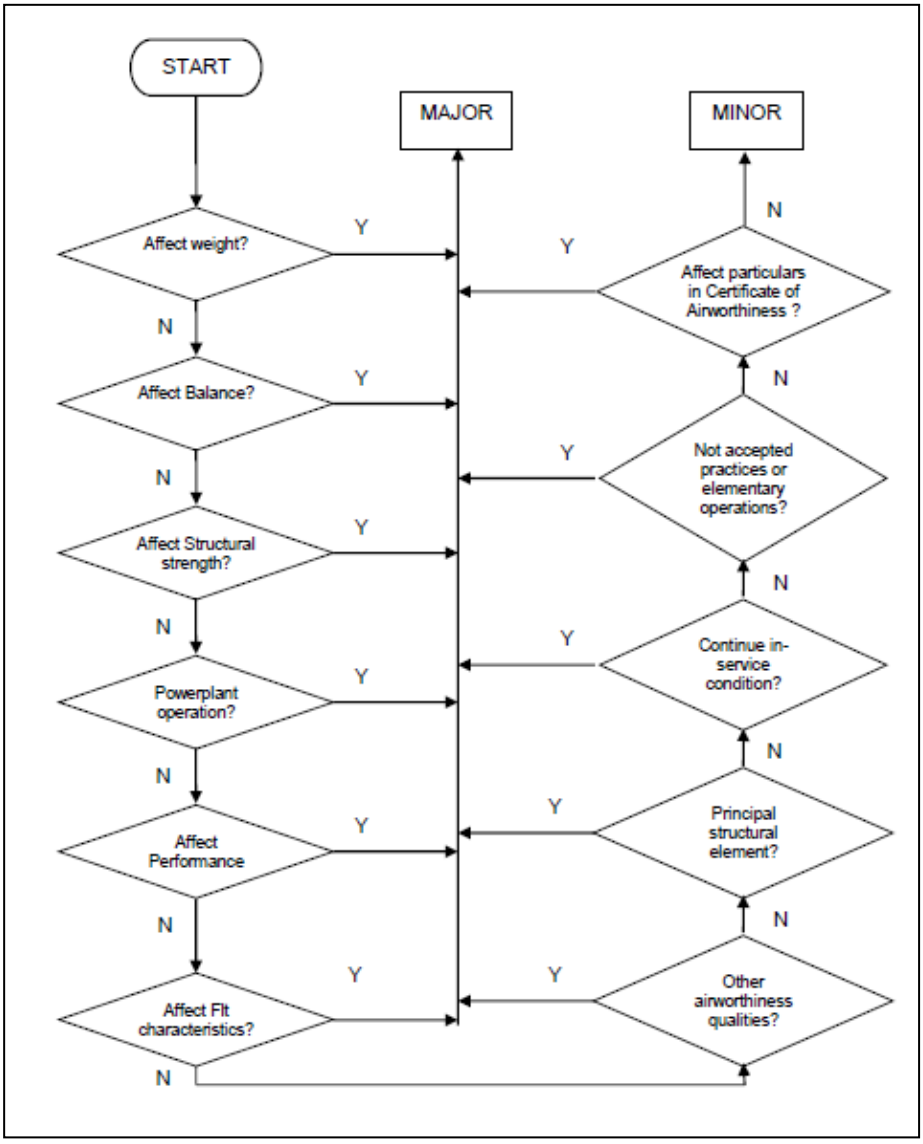
Position / Signatory	Nominated by COA	Nominated by CIMO	Nominated by HODO	Approved by HODO *	Nominated by Chief Executive	Accepted / Approved by CAAM **
POST HOLDERS						
CE	-	-	-	-	-	X
HODO	-	-	-	-	X	X
COA	-	-	X	-	X	X
CIMO	-	-	X	-	X	X
AIRWORTHINESS OFFICE (AWO)						
CVE	X	-	X	-	-	X
AUTHORISED SIGNATORY	X	-	X	-	-	X
DMS ADMINISTRATOR	X	-	-	X	-	-
TPE	X	-	-	X	-	-
INDEPENDENT MONITORING OFFICE (IMO)						
IM	-	X	-	X	-	-
DESIGN OFFICE						
SCE	X	-	-	X	-	-
DE	X	-	-	X	-	-

NOTE:
i) (*) Approval granted with signature(s) by GAM DO on the Personnel Record Sheet form.
ii) (**) Approval granted with signature(s) by CAAM.

APPENDIX B - DOCUMENTS SIGNATURE RULES

No	Document	Prepared by	Verified & Approved by	Released by
1	Modification Classification (MC)	CVE	Authorised Signatory	-
2	Certification Plan (CP)	CVE	COA	-
3	Master Document List (ML)	CVE	Authorised Signatory	COA
4	Justification Reports	SCE	CVE	-
5	Test Plans / Test Reports	SCE	CVE	-
6	Engineering Drawings	SCE	CVE	-
7	Cabin Compliance Inspection Report (CCIR)	SCE	CVE	-
8	Modification Document (MD)	SCE	CVE	Authorised Signatory
9	Design Repair Approval Sheet (DRAS)	SCE	CVE	Authorised Signatory
10	Instruction for Continued Airworthiness (ICA)	SCE	CVE	Authorised Signatory
11	Flight Manual Supplement (FMS)	CVE	CAAM	-
12	Revision to Flight Manual Supplement (FMS)	CVE	Authorised Signatory	-
13	Compliance Checklist Document (CC)	SCE	CVE	COA
14	Declaration of Compliance (DC)	-	HODO	-
15	Service Difficulty Report (SDR)	Customer	COA	-
16	Alert Service Bulletin (ASB)	SCE	CVE	Authorised Signatory
17	Concession Form	Customer	Authorised Signatory	-
18	Classification of Concession	-	Authorised Signatory	-

APPENDIX C - CLASSIFICATION CRITERIA FOR MAJOR AND MINOR DESIGN CHANGE



APPENDIX D – ESTABLISHING THE TYPE – CERTIFICATE BASIS FOR A CHANGED PRODUCT.