CAR PART V
CAR-145 APPROVED MAINTENANCE ORGANISATIONS

FOREWORD

1. The GCAA has adopted associated compliance or interpretative material wherever possible and, unless specifically stated otherwise, clarification will be based on this material or other GCAA documentation.

2. Change and amendment bar is placed against each paragraph affected.

3. Conformity with the Acceptable Means of Compliance (AMC) of this Chapter is mandatory unless alternative means of compliance acceptable to the GCAA.

ISSUE HISTORY AND DATE OF APPLICABILITY

Issue No.:	Date of Issue	Date of applicability
Initial	January 2008	Not available
Issue 02	July 2011	Not available
Issue 03	September 2011	Not available
Issue 04	August 2013	Not available
Rev. 01	October 2014	Not available
Issue 05	May 2015	Not available
Rev. 01	February 2016	Not available
Issue 06	05th December 2017	1st July 2018
Issue 07	28th June 2018	1st July 2018
Issue 08	8th November 2020	8th November 2020
Issue 09	10th January 2023	01st March 2023

HIGHLIGHTS OF CHANGE

Issue No.: 06	Description
Issue 06 based on Commission Regulation (EU) No 1321/2014 of 26 Nov 2014 and Decision No 2003/219/RM of 28 Nov 2003, including Commission Regulation (EU) No 2015/1088 of 3 Jul 2015 & Commission Regulation (EU) No.2015/1536 of 16 Sep 2015. Includes: Decision No. 2015/029/R of 17 Dec 2015 & 2016/011/R of 11 Jul 2016 (Excluded are EASA 145.A.46 – ARC Staff for ELA1 & 2 and LSA)	Following NPA 2017-05 and its CRD, in addition to changes related to NPA 2017-01 and its CRD (related to CAR-145.60), the following changes have been made. 1. CAR 145.1 modified to transfer requirements to appropriate section such as CFFF, CAR PART III Chapter 9, MORC privilege etc... with deletion of associated AMC and GM. 2. Item 2 under GM 145.1 is deleted and moved to GM 145.30(a) and 145.30(b) Personnel requirements. 3. Statement "See also CAR M. 402(c), 402(d), 402(e)" under CAR 145.25 deleted. 4. AMC2 145.30(e) – appendix IV to AMC 145.30(e) transferred to Appendix VIII to CAR-145. 5. Under CAR 145.30, the following changes: - "See also CAR M 402(a)" deleted - Under Para (f), added "…B3 in accordance with Appendix III to CAR 66" & "….penetrant". - Under Para (g) and (h), NOTE 1 and NOTE 2 deleted. 6. Under AMC 145.30(j)(4): - Para (1) (a) – "or" deleted - Para ((1)(b) – amended - Para (2) – Add "The procedure should…….accepted by the GCAA" - Para (2)(c)- Delete "The above procedure……..accepted by the GCAA" - Para 2(ii) – Delete "FCL" 7. GM 145.30(a) and 145.30(b) Personnel requirements - Added 8. GM1 145.30(e) – Added Para 6.5. 9. GM2 145.30(e) – Add to each Table, "maintenance" after "critical…" 10. GM 145.30(f): Appendix III to CAR-145.30(f) moved to Appendix X to CAR-145 11. GM 145.30(j)(4): - Delete NOTE - Delete Para (1)(a) to (n) - Para (2): Delete "….FCL F/EL…to…..appendix I", add "flight engineer License acceptable to the GCAA", Delete "CAR FCL", Add "Appendix I to JAR..", Delete "must include" & Delete "..See CAR FCL4.160(b)(1)"

	12. AMC 145.35(n): - Add in Para (1) - Clarifying training carried out by CAR 147 or equivalent & CAR 145, For Category A Certifying Staff. - Add Para (2) and Para (3). 13. CAR 145.36: deleted 14. AMC 145.36: deleted 15. CAR 145.42: - Delete "See also CAR M.501" - items 1a and 1b added 16. AMC 145.42: - Delete "equivalent document" and add "or equivalent", in line with CAR M. - Add Note on FAA PMA Parts eligible for installation on UAE Registered aircraft: 17. GM 145.42(a)(1a) Acceptance of components added 18. CAR 145.45: - Delete "See also CAR M.401" 19. AMC 145.45(b) – Para 1, Correction "control" 20. AMC 145.47(a) - Para 3 – Delete "safety" and add "maintenance" after "critical". 21. AMC 145.47(b) reference to Safety Alert 2017-04 added 22. CAR 145.48 added with associated AMC and GM 23. CAR 145.50: - Delete "See also CAR M.403" 24. AMC2 to 145.50(d): "This requirement also applies to the UAE engine completely restored and engine modules." Added under item 1. 25. CAR 145.55(c)(3) – Change "two" to "three" years. 26. CAR 145.65(b) changed 27. AMC 145.65(b)(3) deleted. 28. GM 145.65(b)(1) – New para added, on maintenance contract CAMO and AMO. 29. CAR-145.65(d) added (post-NPA) 30. GM 145(c)(1) – Para (2) – Added CAR 145.48 element in the List and amend 2.12 & 2.23. 31. CAR 145.70 - Para 12, add "….and any……..CAR M" - Point (d) added 32. AMC 145.70: - Part 0 - Reserved 33. AMC 145.70 - Part 1: Para 2.13 – Added, "its" & delete "of same"

	- Para 2.23 – Add “Critical maintenance task and error capturing methods” - Para 2.29 & 2.30 – Reserved - Para L2.7 – Add “Line procedure for critical maintenance task and error capturing methods” - Para 3.17 – Added “MORC Procedure (if applicable) 34. GM 145.70(d) added. 35. CAR 145.75(f) and (g) added 36. AMC 145.75(b) - Para 3.1(b) – Add sentence to paragraph – clarification of unrealistic 37. CAR 145.90 - changed for non-expiry approval certificate and addition to CAR PART III Chapter 9 38. CAR 145.100/AMC/GM: MORC – Removal of any reference to GCAA Supplement 39. APPENDIX IV to CAR 145: - Added “Table 1” - CAR 145.107, point added - CAR 145.108. point (c) deleted -

Issue 07	The following changes have been made without carrying NPA since they are mainly agreed by the Industry through the different forum that GCAA is holding with Industry. Additionally, this decision to not go for NPA is supported by the fact that the changes allow more proportionality and should receive a positive feedback from the Industry. CAR 145.42 (a), para (1a) –Deleted "and engine module…" from para 1-CAR 145.42 (a), para (1a) Delete "and engine module…", delete "are" replace with 'is" 3- GM 145.48(d) Correction "Appendix IV to CAR 145" 4- AMC2 145.50(d) Para 1 removal of "and engine modules.." 5. AMC to CAR 145.70 Part 0 - Revised 6- CAR 145.75 Para (b) removal "the organisation shall……be approved by the GCAA" Added " A base maintenance…….approved by the GCAA" 7- GM 145.75(b) New Para added. 8- SECTION B CAR 145.106, point (a), (b), (c) Revised AMC to CAR 145.106(a), Para Deleted AMC1 to CAR 145.106(d) numbering revised AMC2 to CAR 145.106(d) numbering revised AMC to CAR 145.106(f), Revised - GM to CAR 145.106(h). Revised

Issue 08	References to CAAPs are replaced by references to the new AMCs
Issue 09	The following changes are made: 1. CAR 145.1 – add "type validated and / or" 2. CAR 145.1 – Add Maintenance orgnisation approval is limited to maintenance of A6 registered aircraft in UAE. 3. CAR 145.10 – Add UAE type validated and/or registered aircraft and their components 4. AMC 145.10 – Para 3 add "provision for Foreign AMO" 5. GM 145.10 – remove Class A4 6. AMC 145.15 – add para 2 "the GCAA will exercise the discretion to decline any application of AMO…" 7. GM 145.15 – reference to AMC-73 8. AMC 145.20 – Corrected typo "chapters" 9. CAR 145.30 Para (a) – Add statement "…Accepted by the GCAA…." 10. CAR 145.30 Para (b) – Add statement "…approved by the GCAA…." 11. CAR 145.30 Para (c) – Add statement "…approved by the GCAA…." 12. CAR 145.30 para (g) – add "NOTE: Organisations with the principle place of business within UAE territories (LAMO)…" 13. CAR 145.30 Para (j) para (1) replaced with : a. "Organisations with the principle place of business outside UAE territories (FAMO)…… with appropriate supporting evidence.". 14. CAR 145.30 Para (j) para (2) replaced with : "For Line Maintenance carried out under the provisions of CAR 145.75(b) ……subject to the conditions specified in Appendix XII to CAR 145". - Add NOTE: This provision ……to Local Approved Maintenance Organisation. 15. CAR 145.30 Para (j)(5) – Add "….or operators CAR145 AMO…" 16. CAR 145.30 para (j)(5)(ii) – add "or operator's AMO issuing the authorisation" 17. AMC 145.30 (a) – add requirement for Accountable Manager "Unless agreed by the GCAA, the Accountable Manager should:……" 18. AMC 145.30(b) Para 9 – Add "Para i), ii) and iii) - Requirements for nominated CAR 145 Post Holders" 19. AMC1 145.30(e) – Corrected typo error "The reference" 20. AMC 145.30(f): - Para 1 – Add "CAR 145" - Para 2. – Delete "4179:2000, MIL-STD 410E", add "NAS 410" and add "ISO 9712" - Para 3 & 4 – Delete "EN 4179, MIL-STD-410E, ATA Specification 105" and add "in accordance with Para 2 of this AMC"

	- Para 5 –Delete “Dye” add “liquid” and add “and Thermography” - Para 6 – Delete “but not limited to thermography and shearography” - Para 7 – Delete “should establish NDT specialist qualification procedures detailed” add will establish an NDT written practice refer to” & delete “and accepted by the GCAA” - Para 9, 10 & 11 – Deleted. 21. AMC 145.30(j)(5): - Para (1) – Delete Typo “II” - Para (2) – Add “…or operators CAR 145 AMO” 22. GM 145.30(a) – Title change to “GM 145.30(a), 145.30(b) and 145.30(c)….and add ”Para(1) and (2) 23. GM 145.30(a), 145.30(b) and 145.30(c) – Add Para (2) “The minimum requirements for CAR 145 Post Holders as per CAR 145.30a, CAR 145.30(b) and CAR 145.30(c), refer APPENDIX XI to CAR 145” 24. GM1 145.30(e) Para 5.10 – 5.13 & Para 10.1-10.5 – Corrected Spacing 25. GM2 145.30(e) – Competence Assessment Table – Add: Knowledge of SMS (if applicable) and Store Supervisors competence 26. CAR 145.35 para (a)(iv) – Add: Responsibility of CS/SS 27. CAR 145.35 para (d) –Add “Aviation legislation” 28. AMC 145.40(b) Para 3 – Add “Note” 29. AMC 145.42(a)(1) – 30. AMC 145.42(a)(1): - Add para (c) “an UK CAA Form 1 issued by a Part 145 organisation” - Para (1)(e) – Correct typo “2005” - Add “Note 1: Amend statement …”FAA PMA Parts eligibility” - Add “Note 2 – “Certain commercial parts are eligible for installation on UAE registered aircraft…..”with Para (i) and (ii). - Add “Note 3 : ….” 31. AMC 145.42(d) Para (1)(b) – Correct typo error “…Into conformity” 32. CAR 145.45(b) Para 3 – Add (,) after “…type certificate holders” 33. AMC 145.45(b) Para 2 – Correct type error “…data sheet” 34. GM 145.48(c) – Corrected “duplicate” with “Independent” 35. GM 145.48(d) – Corrected typo error “…Appendix VIII to CAR 145” 36. AMC 145.65(c)(1)– Add: Para 12 – “All audit finding corrective action…….with CAR 145.95” 37. AMC 145.65 (c) (2) para 2 add “UK CAA 145) 38. AMC 145.65(b) – Delete “….and requirement contained in……..Part VI Chapter 3” 39. GM 145.65(b)(1) – Corrected typo error “AMC CAR M. 708(c)” 40. GM 145.70(d) Maintenance Organisation Exposition:

	- Renumbering, Para 1, 2 and 3 - Para (1)(a) – Add "(FAMO)" - Para (1)(b)(i) add "UK CAA" - Para (1)(b)(ii) – Delete "MOE" - Para (1)b)(iii) – Add "An Approved TCAA/Brazilian ANAC Exposition Manual with EASA Supplement with GSP", or - Para (1) b)(iv) – Add "An Approved NAA Exposition Manual (Acceptance under GCAA-NAA Bilateral) with GSP" - Para 3 – Add para (a), (b) and (c)(i) to (v) - FAMO GSP requirements. 41. CAR 145.75(c) – Add "NOTE: (For occasional line maintenance……not exceeding 40 days") 42. AMC 145.75(b) – Add para 1 "NOTE: Any Line Station accepted……..Exposition" 43. CAR 145.95 (b) – delete "Thirty (30)" and add "sixty (60)" 44. CAR 145.95- added : "Note: GCAA SAFETY AFFAIRS AUDIT STANDARDS ……." 45. CAR 145.101 (d)– Removal of "Initial Issuance of approval or" 46. CAR 145.103 Para (c)– Correct typo error, delete "and". 47. CAR 145.104 – Para (e): - Delete "GCAA" add "MORC" - Add "Initial and" - Para (e) (2) – Delete "/Q-Pulse" - Para (e) (3) – Delete "GCAA" 48. AMC to CAR 145.104(e) –Add Para a) and b), and add "Note:.." 49. CAR 145.105 (d) – add para 5 50. CAR 145.106: - Para (c) - Delete "and inform the GCAA accordingly", "(AWF-73)" and add word "the" - Para (c) – delete "all GCAA procedures" add "applicable GCAA publications" - Para (d) – Corrected Typo error "A" and delete "Issuance or" - Para (d) – delete "the prescribed forms/checklists" add "appropriate checklist developed by approved organisation" - Para (e) – add para - Para (h) – add "It is mandatory to mention the line maintenance scope in the MORC Statement/ Recommendation" - Para (j) – Delete (.) and corrected typo error "provide" - Para (k) – Delete "to" - Para (l) – Add Para 51. AMC 2 to CAR 145.106(d):

	- Para (a) – Para rephrased - Para (a) – added "UK CAA" - Para (a) 2) -Add "…….reference to GCAA/EASA – MOE 1.9 Scope of works & MOE 5.3 – List of Approved location/station & aircraft type or equivalent document". - Para (a) 3) – Delete "NAA" and add "GCAA…..- latest GCAA Approval Page/EASA Form 3" - Para (a) 4) – Add "….GCAA/EASA" - Para (a) 6) – Delete "suitable" and add " ….. copy of GCAA/EASA MOE - 1.8 – Description of Facility" - Para (a) 15) – Delete "….and recommendation.." add "….and verify the latest MOE Rev. status in the GCAA Q-Pulse (from the Auditee). - Para (a) 16) - Add: "review the ……(GSP: AWF-AMO-008) of the latest revision status, - Para (a) 17)- Delete para, replace with "evidence of receiving GCAA publication subscriptions and access to GCAA ROSI and Q-Pulse accounts" - Para (a) 21) add para "copy of the signed MORC Statement, Form Ref: AMO-MORC-002"; 52. CAR 145.107 MORC Exchange of Information: - Para (b) – Delete "The submitted MORC…….GCAA Property". Add "evidence or…". Delete "produce" and add " obtained" - Para (d) – Delete "…without prior…….the GCAA" - Para (e) – Delete Para 53. APPENDIX II to CAR-145 - ORGANISATIONS APPROVAL CLASS AND RATING SYSTEM: - Remove A4 AIRCRAFT - Correct type error – C22 54. APPENDIX IV TO CAR 145: add para (d)"The person shall be trained on operator's procedures in accordance with AMC-74." - Renumbering to reference 55. APPENDIX IV TO CAR 145 Para (g): - Add "category C" - Add "….level 3 for the initial aircraft and level 1 for subsequent aircraft type….."

	56. APPENDIX VII to CAR 145 : - Para 1a) - Delete “Part V Chapter 1 Section 8” & replaced with “CAR-AIR Chapter 2 Section 11” and add “CAR-RCA section 8” - Para 1b) – Note – corrected typo 1 b) above - Para 5 – Form, correction typo “**meets”** 57. APPENDIX VIII to CAR 145 – Para E(i) – Correct typo error “fire triangle” & “and explain the….” 58. APPENDIX IX to CAR 145 – UAE GCAA CAR 145 Maintenance Organisation Process (CAR 145.15) – The content of this Appendix completely deleted & replaced as Standalone AMC. 59. APPENDIX X to CAR 145 – amended: - Para 1.1 – Delete “EN 473” - Para 1.2 – Delete “of third party” - Para 1.3 – Add “thermography” - Para 2.1 – Delete ‘procedure” add “a written practice” & delete “nominated” add “responsible” - Para 2.2 – Delete complete paragraph - Para 3.1 – Delete “adequate of suitable” add “sufficient” - Para 3.2 – Delete “nominate in writing using GCAA Form GTF-NPA-001” and add “designate a Responsible Level 3”, delete “an individual”, “independent central”, “PCN” and delete “nominated” add “Responsible”. - Para 3.3 – Delete “nominated” add “Responsible”, add “shall be nominated” and delete “shall be certified to PCN Level 3”. - Para 3.4 – Delete “Any changes to this list are to be notified to the GCAA”. - Para 4.1 – Delete “Guidance Material” add “Appendix”, - Para 4.2 – Delete “Normally,” & “procedure” - Para 4.3 – Delete “then they” add “or” & delete “procedure” - Para 6.1 – Delete “Guidance Material”, add “Appendix” (2 locations) - Para 8.1 – Delete “Authorization”, add “approval”, delete “procedure” add “written practice”, delete “signifying approval” add “signing” & delete “nominated” add “responsible” - Para 8.2 – Delete “A written statement”, “a nominated” & add “the Quality Manager after being qualified by the Responsible” - Para 8.7 – Delete “Procedure” and add “written practice” - Para 8.11 – Delete “Nominated”, and add “Responsible”, delete “An Independent PCN” add “Certified” and delete ”certificate holder” - Para 8.13 – Delete “Guidance Material”, and add “Appendix”

	- Note – Delete “EN 473 and” 60. APPENDIX XI to CAR 145 – MINIMUM REQUIREMENTS FOR CAR 145 POST HOLDERS (CAR 145.30a, b & c) – Added. 61. Appendix XII to CAR 145 – REQUIREMENTS FOR CERTIFYING STAFF UNDER SUBCONTRACT ARRANGEMENT IN ACCORDANCE WITH CAR 145.75(b)- Added.

CONTENTS

SECTION A: MAINTENANCE ORGANISATION REGULATIONS

CAR 145.1 GENERAL

Organisations involved in the maintenance of all aircraft type validated and / or registered in UAE in all categories of operations, except aircraft below 5700 kg Maximum Certificated Take-Off Mass (MCTOM) in non-commercial air transport, and components intended for fitment thereto, shall be approved in accordance with CAR-145.

Unless maintained by CAR-145 organisation, non-commercial air transport category aircraft below 5700 kg MCTOM shall comply with the requirements stipulated in CAR-M Subpart F.

Maintenance orgnisation approval for locally based organisations issued under the provisions of this regulation shall be for the purpose of maintaining UAE registered aircraft only.

CAR 145.10 Scope

This Section establishes the requirements to be met by an organisation to qualify for the issue or continuation of an approval for the maintenance of UAE type validated and/or UAE registered aircraft and their components.

AMC 145.10 Scope

1. Line Maintenance should be understood as any maintenance that is carried out before flight to ensure that the aircraft is fit for the intended flight.

(a) Line Maintenance may include:

- Trouble shooting.
- Defect rectification.
- Component replacement with use of external test equipment, if required.
- Component replacement may include components such as engines and propellers.
- Scheduled maintenance and/or checks including visual inspections that will detect obvious unsatisfactory conditions/discrepancies but do not require extensive in depth inspection. It may also include internal structure, systems and power-plant items which are visible through quick opening access panels/doors.
- Minor repairs and modifications which do not require extensive disassembly and can be accomplished by simple means.

(b) For temporary or occasional cases (AD's, SB's) the Quality Manager may accept base maintenance tasks to be performed by a line maintenance organisation provided all requirements are fulfilled as defined by the GCAA.

(c) Maintenance tasks falling outside these criteria are considered to be Base Maintenance.

(d) Aircraft maintained in accordance with “progressive” type programmes should be individually assessed in relation to this paragraph. In principle, the decision to allow some "progressive" checks to be carried out should be determined by the assessment that all tasks within the particular check can be carried out safely to the required standards at the designated line maintenance station.

2. Where the organisation uses facilities both inside and outside the UAE such as satellite facilities, subcontractors, and line stations etc., such facilities may be included in the approval without being identified on the certificate subject to the maintenance organisation exposition identifying the facilities and containing procedures to control such facilities and the GCAA being satisfied that they form an integral part of the approved maintenance organisation.

3. Notwithstanding the provision in Paragraphs 2, Foreign GCAA approved AMO is not permitted to extend the Capability or Scope of work in the UAE, unless accepted as a UAE Local AMO under the provision of this Regulation.

GM 145.10 SCOPE

This Guidance Material provides guidance on how the smallest organisations satisfy the intent of CAR-145:

1. By inference, the smallest maintenance organisation would only be involved in a limited number of light aircraft, or aircraft components, used for commercial air transport. It is therefore a matter of scale; light aircraft do not demand the same level of resources, facilities or complex maintenance procedures as the large organisation.
2. It is recognized that CAR-145 approval may be required by two quite different types of small organisations, the first being the light aircraft maintenance hangar, the second being the component maintenance workshop, e.g. small piston engines, radio equipment, etc.

3. Where only one person is employed (in fact having the certifying function and others), these organisations approved under CAR-145 may use the alternatives provided in point 3.1 limited to the following:
   (a) Class A2 Base and Line maintenance of aeroplanes of 5700 kg and below (piston engines only).
   (b) Class A3 Base and Line maintenance of single-engined helicopters of less than 3175 kg.
   (c) Class B2 Piston engines with maximum output of less than 450 HP.
   (d) Class C Components.
   (e) Class D1 Non-destructive Testing.

3.1 145.30(b): The minimum requirement is for one full-time person who meets the CAR-66 requirements for certifying staff and holds the position of accountable manager, maintenance engineer and is also certifying staff‘. No other person may issue a certificate of release to service and, therefore, if absent, no maintenance may be released during such absence.

3.1.1 The quality monitoring function of 145.65(c) may be contracted to an appropriate organisation approved under CAR-145 or to a person with appropriate technical knowledge

and extensive experience of quality audits employed on a part-time basis, with the agreement of the GCAA.

Note: Full-time for the purpose of CAR-145 means not less than 35 hrs per week except during vacation periods.

3.1.2 145.35. In the case of an approval based on one person using a subcontracted quality monitoring arrangement, the requirement for a record of certifying staff is satisfied by the submission to and acceptance by the GCAA using GTF-NPA-001 Form. With only one person the requirement for a separate record of authorisation is unnecessary because the AWF-AMO-007 approval schedule defines the authorisation. An appropriate statement, to reflect this situation, should be included in the exposition.

3.1.3 145.65(c). It is the responsibility of the contracted quality monitoring organisation or person to make a minimum of 2 visits per 12 months and it is the responsibility of this organisation or person to carry out such monitoring on the basis of 1 pre-announced visit and 1 not announced visit to the organisation.

It is the responsibility of the organisation to comply with the findings of the contracted quality monitoring organisation or the person.

CAUTION: It should be understood that if the contracted organisation or the above mentioned person loses or gives up its approval, then the organisation's approval will be suspended.

4. Recommended operating procedure for a CAR-145 approved maintenance organisation based upon up to 10 persons involved in maintenance.

4.1 145.30(b): The normal minimum requirement is for the employment on a fulltime basis of two persons who meet the requirements for certifying staff, whereby one holds the position of 'maintenance engineer' and the other holds the position of 'quality audit engineer'.

Either person can assume the responsibilities of the accountable manager providing that they can comply in full with the applicable elements of 145.30(a), but the 'maintenance engineer' should be the certifying person to retain the independence of the 'quality audit engineer' to carry out audits. Nothing prevents either engineer from undertaking maintenance tasks providing that the 'maintenance engineer' issues the certificate of release to service.

The 'quality audit engineer' should have similar qualifications and status to the 'maintenance engineer' for reasons of credibility, unless he/she has a proven track-record in aircraft quality assurance, in which case some reduction in the extent of maintenance qualifications may be permitted.

In cases where the GCAA agrees that it is not practical for the organisation to nominate a post holder for the quality monitoring function; this function may be contracted in accordance to paragraph 3.1.1.

CAR 145.15 Application

An application for the issue or change of an approval shall be made in a form and manner established by the GCAA.

AMC 145.15 Application

1. In a form and in a manner established by the GCAA means that the application should be made on the appropriate GCAA application process available on the GCAA website (CAR-145 e-Services).

2. The GCAA will exercise the discretion to decline any application of AMO, when the approval is considered an undue burden to the GCAA. The issuance or continuation of approval is considered an undue burden, when any of the following criteria is applicable:
   I. It is not used to serve any UAE Operator,
   II. It is in conflict with the interest of the UAE,
   III. It poses difficulty for the GCAA to conduct regulatory oversight, such as situation of security threat to GCAA/Operator personnel due to war, civil unrest, ethnic conflicts, pandemic, etc., or
   IV. The organisation has constantly failed to document a functioning and effective quality systems.

GM 145.15 APPLICATION

Refer to AMC-73

CAR 145.20 Terms of approval

The organisation shall specify the scope of work deemed to constitute approval in its exposition (Appendix II to CAR-145 contains a table of all classes and ratings).

AMC 145.20 Terms of approval

The following table identifies the ATA specification 2200 chapters for the category C component rating. If the maintenance manual (or equivalent document) does not follow the ATA Chapters, the corresponding subjects still apply to the applicable C rating.

CLASS	RATING	ATA CHAPTERS
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1 Air Cond & Press	21
	C2 Auto Flight	22
	C3 Comms & Nav	23 – 34
	C4 Doors – Hatches	52

	C5 Electrical Power & Light	24 – 33 – 85
	C6 Equipment	25 – 38 – 44 – 45 - 50
	C7 Engine – APU	49 – 71 – 72 – 73 – 74 – 75 – 76 – 77 – 78 – 79 – 80 – 81 – 82 – 83
	C8 Flight Controls	27 – 55 – 57.40 – 57.50 – 57.60 – 57.70
	C9 Fuel	28 – 47

	C10 Helicopter – Rotors	62 – 64 – 66 – 67
	C11 Helicopter – Trans	63 – 65
	C12 Hydraulic Power	29
	C13Indicating/Recording Systems	31 – 42 – 46
	C14 Landing Gear	32
	C15 Oxygen	35
	C16 Propellers	61
	C17 Pneumatic & Vacuum	36 – 37
	C18 Protection Ice/Rain/fire	26 – 30
	C19 Windows	56
	C20 Structural	53 – 54 – 57.10 – 57.20 – 57.30
	C21 Water Ballast	41
	C22 Propulsion Augmentation	84

CAR 145.25 Facility requirements

The organisation shall ensure that:

a) Facilities are provided appropriate for all planned work, ensuring in particular, protection from the weather elements. Specialized workshops and bays are segregated, as appropriate, to ensure that environmental and work area contamination is unlikely to occur.

1. For base maintenance of aircraft, aircraft hangars are available and large enough to accommodate aircraft on planned base maintenance;

2. For component maintenance, component workshops are large enough to accommodate the components on planned maintenance.

b) Office accommodation is provided for the management of the planned work referred to in paragraph (a), and certifying staff so that they can carry out their designated tasks in a manner that contributes to good aircraft maintenance standards.

c) The working environment including aircraft hangars, component workshops and office accommodation is appropriate for the task carried out and in particular special requirements observed. Unless otherwise dictated by the particular task environment, the working environment must be such that the effectiveness of personnel is not impaired:

1. Temperatures must be maintained such that personnel can carry out required tasks without undue discomfort.

2. Dust and any other airborne contamination are kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident. Where dust/ other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are re-established.

3. Lighting is such as to ensure each inspection and maintenance task can be carried out in an effective manner.

4. Noise shall not distract personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel are provided with the necessary personal equipment to stop excessive noise causing distraction during inspection tasks.

5. Where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions are observed. Specific conditions are identified in the maintenance data.

d) The working environment for line maintenance is such that the particular maintenance or inspection task can be carried out without undue distraction. Therefore where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks must be suspended until satisfactory conditions are re-established. Secure storage facilities are provided for components, equipment, tools and material. Storage conditions ensure segregation of serviceable components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage are in accordance with the manufacturer's instructions to prevent deterioration and damage of stored items. Access to storage facilities is restricted to authorised personnel.

AMC 145.25(a) Facility requirements

1. Where the facility is not owned by the organisation, it may be necessary to establish proof of tenancy. In addition, sufficiency of hangar space to carry out planned base maintenance should be demonstrated by the preparation of a projected aircraft hangar visit plan relative to the maintenance programme. The aircraft hangar visit plan should be updated on a regular basis.

2. Protection from the weather elements relates to the normal prevailing local weather elements that are expected throughout any twelve month period. Aircraft hangar and component workshop structures should prevent the ingress of rain, hail, ice, snow, wind and dust etc. Aircraft hangar and component workshop floors should be sealed to minimize dust generation.

3. For line maintenance of aircraft, hangars are not essential but it is recommended that access to hangar accommodation be demonstrated for usage during inclement weather for minor scheduled work and lengthy defect rectification.

4. Aircraft maintenance staff should be provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.

AMC 145.25(b) Facility requirements

It is acceptable to combine any or all of the office accommodation requirements into one office subject to the staff having sufficient room to carry out assigned tasks.

In addition, as part of the office accommodation, aircraft maintenance staff should be provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.

AMC 145.25(d) Facility requirements

1. Storage facilities for serviceable aircraft components should be clean, well ventilated and maintained at a constant dry temperature to minimize the effects of condensation. Manufacturer‘s storage recommendations should be followed for those aircraft components identified in such published recommendations.
2. Storage racks should be strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not distorted during storage.
3. All aircraft components, wherever practicable, should remain packaged in protective material to minimize damage and corrosion during storage.

CAR 145.30 Personnel requirements

a) The organisation shall appoint an accountable manager accepted by the GCAA, who has corporate Authority for ensuring that all maintenance required by the customer can be financed and carried out to the standard required by this regulation. The accountable manager shall:

1. Ensure that all necessary resources are available to accomplish maintenance in accordance with 145.65(b) to support the organisation approval.
2. Establish and promote the safety and quality policy specified in 145.65(a).
3. Demonstrate a basic understanding of this regulation.

b) The organisation shall nominate a person or group of persons, approved by the GCAA, whose responsibilities include ensuring that the organisation complies with this regulation. Such person(s) shall ultimately be responsible to the accountable manager.

1. The person or persons nominated shall represent the maintenance management structure of the organisation and be responsible for all functions specified in this Regulation.
2. The person or persons nominated shall be identified and their credentials submitted in a form and manner established by the GCAA.
3. The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft or component maintenance and demonstrate a working knowledge of this regulation.
4. Procedures shall make clear who deputizes for any particular person in the case of lengthy absence of the said person.

c) The accountable manager under paragraph (a) shall nominate a person approved by the GCAA, with responsibility for monitoring the quality system, including the associated feedback system as required by 145.65(c). The appointed person shall have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on quality and compliance matters.

d) The organisation shall have a maintenance man-hour plan showing that the organisation has sufficient staff to plan, perform, supervise, inspect and quality monitor the organisation in accordance with the approval. In addition the organisation shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.

e) The organisation shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard agreed by the GCAA. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of human factors and human performance issues appropriate to that person's function in the organisation.

‘Human factors‘ means principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration of human performance. ‘Human performance‘ means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

f) The organisation shall ensure that personnel who carry out and/or control a continued airworthiness non-destructive test of aircraft structures and/or components are appropriately qualified for the particular non-destructive test in accordance with the European or equivalent Standard which is acceptable to the

GCAA. Personnel who carry out any other specialized task shall be appropriately qualified in accordance with officially recognized Standards. By derogation to this paragraph those personnel specified in paragraphs (g) and (h)(1) and (h)(2), qualified in CAR 66 category B1 or B3 in accordance with Appendix III to CAR 66 may carry out and/or control colour contrast dye penetrant tests.

g) Any organisation maintaining aircraft, except where stated otherwise in paragraph (j), shall in the case of aircraft line maintenance, have appropriate aircraft type rated certifying staff qualified as category B1, B2 and B3, as appropriate, in accordance with CAR-66 and 145.35.

In addition, such organisations may also use appropriately task trained certifying staff holding the privileges described in CAR 66.20(a)(1) and CAR 66.20(a)(3)(ii) and qualified in accordance with CAR-66 and 145.35 to carry out minor scheduled line maintenance and simple defect rectification. The availability of such certifying staff shall not replace the need for CAR 66 category B1, B2 and B3 certifying staff, as appropriate.

NOTE: Organisations with the principle place of business within UAE territories (LAMO) - For line maintenance facilities located outside UAE, the certifying staff shall have appropriate aircraft type rating and qualified as category B1, B2 or B3 as appropriate, in accordance with GCAA CAR-66 and 145.35.

h) Any organisation maintaining aircraft, except where stated otherwise in paragraph (j) shall:

1. In the case of base maintenance of large aircraft, have appropriate aircraft type rated certifying staff qualified as category C in accordance with CAR-66 and 145.35. In addition the organisation shall have sufficient aircraft type rated staff qualified as category B1 and B2 in accordance with CAR-66 and 145.35 to support the category C certifying staff:
    i. B1 and B2 support staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service.
    ii. The organisation shall maintain a register of any such B1 and B2 support staff.
    iii. The category C certifying staff shall ensure that compliance with paragraph (i) has been met and that all work required by the customer has been accomplished during the particular base maintenance check or work package, and shall also assess the impact of any work not carried out with a view to either requiring its accomplishment or agreeing with the operator to defer such work to another specified check or time limit.
2. in the case of base maintenance of aircraft other than large aircraft have either:
    i. appropriate aircraft type rated certifying staff qualified as category B1, B2 or B3 in accordance with CAR-66 and 145.35 or,
    ii. appropriate aircraft type rated certifying staff qualified in category C assisted by support staff as specified in 145.35(a)(i).

i) Component certifying staff shall be appropriately qualified.

j) By derogation to paragraphs (g) and (h), the organisation may use certifying staff qualified in accordance with the following provisions:

1. Organisations with the principle place of business outside UAE territories (FAMO) - For line and base maintenance facilities located outside UAE, the certifying staff may be qualified in accordance with the NAA in which the line station or base maintenance is based or in accordance with UK CAA/EASA Part 66 subject to demonstrating compliance to Appendix IV to CAR 145 with appropriate supporting evidence.
2. For Line Maintenance carried out under the provisions of CAR 145.75(b) the Certifying Staff may be qualified in accordance with the national aviation regulations of the approving state or in accordance with UK CAA or EASA Part-66, and , subject to the conditions specified in Appendix XII to CAR 145.

   NOTE: This provision is only applicable to Local Approved Maintenance Organizations.
3. For a repetitive pre-flight airworthiness directive which specifically states that the flight crew may carry out such airworthiness directive, the organisation may issue a limited certification Authorisation to the aircraft commander and/or the flight engineer on the basis of the flight crew licence held. However, the organisation shall ensure that sufficient practical training has been carried out to ensure that such aircraft commander or flight engineer can accomplish the airworthiness directive to the required standard.
4. In the case of aircraft operating away from a supported location the organisation may issue a limited certification Authorisation to the commander and/or the flight engineer on the basis of the flight crew licence held subject to being satisfied that sufficient practical training has been carried out to ensure that the commander or flight engineer can accomplish the specified task to the required standard. The provisions of this paragraph shall be detailed in an exposition procedure.
5. In the following unforeseen cases, where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the organisation contracted to provide maintenance support or operator's CAR 145 AMO, may issue a one-off certification authorisation;
   i. to one of its employees holding equivalent type authorisations on aircraft of similar technology, construction and systems; or
   ii. to any person with not less than five years maintenance experience and holding a valid ICAO aircraft maintenance licence rated for the aircraft type requiring certification provided there is no organisation appropriately approved under this regulation at that location and the contracted organisation or operator's AMO issuing the authorisation obtains and holds on file evidence of the experience and the licence of that person.

All such cases as specified in this subparagraph shall be reported to the GCAA within seven days of the issue of such certification authorisation. The organisation issuing the one-off Authorisation shall ensure that any such maintenance that could affect flight safety is re-checked by an appropriately approved organisation.

AMC 145.30(a) Personnel requirements

With regard to the accountable manager, it is normally intended to mean the chief executive officer of the approved maintenance organisation, who by virtue of position has overall (including in particular financial) responsibility for running the organisation. The accountable manager may be the accountable manager for more than one organisation and is not required to be necessarily knowledgeable on technical matters as the maintenance organisation exposition defines the maintenance standards. When the accountable manager is not the chief executive officer the GCAA will need to be assured that such an accountable manager has direct access to chief executive officer and has a sufficiency of 'maintenance funding' allocation.

Unless agreed by the GCAA, the Accountable Manager should:

i. be in full time employment with the organisation, with not less than 35 hrs per week in the UAE except during vacation period,
ii. hold a valid employment contract
iii. hold a valid UAE Residence Visa

AMC 145.30(b) Personnel requirements

1. Dependent upon the size of the organisation, the CAR-145 functions may be subdivided under individual managers or combined in any number of ways.
2. The organisation should have, dependent upon the extent of approval, a base maintenance manager, a line maintenance manager, a workshop manager and a quality manager, all of whom should report to the accountable manager except in small CAR-145 organisation where any manager may also be the accountable manager, as determined by the GCAA, he/she may also be the line maintenance manager or the workshop manager.
3. The base maintenance manager is responsible for ensuring that all maintenance required to be carried out in the hangar, plus any defect rectification carried out during base maintenance, is carried out to the design and quality standards specified in 145.65 (b). The base maintenance manager is also responsible for any corrective action resulting from the quality compliance monitoring of 145.65(c).
4. The line maintenance manager is responsible for ensuring that all maintenance required to be carried out on the line including line defect rectification is carried out to the standards specified in 145.65(b) and also responsible for any corrective action resulting from the quality compliance monitoring of 145.65(c).
5. The workshop manager is responsible for ensuring that all work on aircraft components is carried out to the standards specified in 145.65(b) and also responsible for any corrective action resulting from the quality compliance monitoring of 145.65(c).
6. The quality manager's responsibility is specified in 145.30(c).
7. Notwithstanding the example sub-paragraphs 2 - 6 titles, the organisation may adopt any title for the foregoing managerial positions but should identify to the GCAA the titles and persons chosen to carry out these functions.
8. Where an organisation chooses to appoint managers for all or any combination of the identified CAR-145 functions because of the size of the undertaking, it is necessary that these managers report ultimately

through either the base maintenance manager or line maintenance manager or workshop manager or quality manager, as appropriate, to the accountable manager.

9. For the purpose of CAR 145 Approval, unless agreed by the GCAA, the nominated Post Holder should:
   i. be in full time employment with the organisation, with not less than 35 hrs per week in the UAE except during vacation period,
   ii. hold a valid employment contract, limited to the organization,
   iii. hold a valid UAE Residence Visa.

NOTE:

Certifying staff may report to any of the managers specified depending upon which type of control the approved maintenance organisation uses (for example licensed engineers/independent inspection/dual function supervisors etc.), as long as the quality compliance monitoring staff specified in 145.65(c)(1) remain independent.

AMC 145.30(c) Personnel requirements

Monitoring the quality system includes requesting remedial action as necessary by the accountable manager and the nominated persons referred to in 145.30(b).

AMC 145.30(d) Personnel requirements

1. Has sufficient staff means that the organisation employs or contracts such staff of which at least half the staff that perform maintenance in each workshop, hangar or flight line on any shift should be employed to ensure organisational stability. Contract staff, being part time or full time should be made aware that when working for the organisation they are subjected to compliance with the organisation‘s procedures specified in the maintenance organisation exposition relevant to their duties. For the purpose of this subparagraph, employed means the person is directly employed as an individual by the maintenance organisation approved under CAR-145 whereas contracted means the person is employed by another organisation and contracted by that organisation to the maintenance organisation approved under CAR145.
2. The maintenance man-hour plan should take into account all maintenance activities carried out outside the scope of the CAR-145 approval.

   The planned absence (for training, vacations, etc.) should be considered when developing the man-hour plan.

   In the case of pooling of manpower to support various Line Stations, the organization is responsible for maintaining adequate manpower at the applicable stations.
3. The maintenance man-hour plan should relate to the anticipated maintenance work load except that when the organisation cannot predict such workload, due to the short term nature of its contracts, then such plan should be based upon the minimum maintenance workload needed for commercial viability. Maintenance work load includes all necessary work such as, but not limited to, planning, maintenance record checks, production of worksheets/cards in paper or electronic form, accomplishment of maintenance, inspection and the completion of maintenance records.

4. In the case of aircraft base maintenance, the maintenance man-hour plan should relate to the aircraft hangar visit plan as specified in AMC 145.25(a).
5. In the case of aircraft component maintenance, the maintenance man-hour plan should relate to the aircraft component planned maintenance as specified in 145.25(a) (2).
6. The quality monitoring compliance function man-hours should be sufficient to meet the requirement of 145.65(c) which means taking into account AMC 145.65(c). Where quality monitoring staff perform other functions the time, allocated to such functions, needs to be taken into account in determining quality monitoring staff numbers.
7. The maintenance man-hour plan should be reviewed at least every 3 months and updated when necessary.
8. Significant deviation from the maintenance man-hour plan should be reported through the departmental manager to the quality manager and the accountable manager for review. Significant deviation means more than a 25% shortfall in available man-hours during a calendar month for any one of the functions specified in 145.30(d).

AMC1 145.30(e) Personnel requirements

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

The referenced procedure requires amongst others that planners, mechanics, specialised services staff, supervisors and certifying staff whether employed or contracted, are assessed for before unsupervised work commences and that competence is controlled on a continuous basis.

Competence should be assessed by evaluation of:

1. on-the-job performance and/or testing of knowledge by appropriately qualified personnel,
2. records for basic, organisational, and/or product type and differences training, and
3. experience records.

Validation of the above could include a confirmation check with the organisation(s) that issued such document(s). For that purpose, experience/training may be recorded in a document such as a log book or based on the suggested template in GM3 to 145.30(e).

As a result of this assessment, an individual's qualification should determine:

1. which level of ongoing supervision would be required or whether unsupervised work could be permitted.
2. whether there is a need for additional training.

A record of such qualification and competence assessment should be kept.
This should include copies of all documents that attest to qualification, such as the licence and/or any authorisation held, as applicable.

For a proper competence assessment of its personnel, the organisation should consider that:

1. In accordance with the job function, adequate initial and recurrent training should be provided and recorded to ensure continued competence so that it is maintained throughout the duration of employment/contract.
2. All staff should be able to demonstrate knowledge of and compliance with the maintenance organisation procedures, as applicable to their duties.
3. All staff should be able to demonstrate an understanding of human factors and human performance issues in relation with their job function and be trained as per AMC2 145.30 (e).
4. To assist in the assessment of competence and to establish the training needs analysis, job descriptions are recommended for each job function in the organisation. Job descriptions should contain sufficient criteria to enable the required competence assessment.
5. Criteria should allow the assessment to establish that; among others (titles might be different in each organisation):
    i. Managers are able to properly manage the work output, processes, resources and priorities described in their assigned duties and responsibilities in a safe compliant manner in accordance with regulations and organisation procedures.
    ii. Planners are able to interpret maintenance requirements into maintenance tasks, and have an understanding that they have no authority to deviate from the maintenance data.
    iii. Supervisors are able to ensure that all required maintenance tasks are carried out and, where not completed or where it is evident that a particular maintenance task cannot be carried out to the maintenance data, then such problems will be reported to the 145.30(c) person for appropriate action. In addition, for those supervisors, who also carry out maintenance tasks, that they understand such tasks should not be undertaken when incompatible with their management responsibilities.
    iv. Mechanics are able to carry out maintenance tasks to any standard specified in the maintenance data and will notify supervisors of defects or mistakes requiring rectification to re-establish required maintenance standards.
    iv. Specialised services staff are able to carry out specialised maintenance tasks to the standard specified in the maintenance data. They should be able to communicate with supervisors and report accurately when necessary.
    v. Support staff are able to determine that relevant tasks or inspections have been carried out to the required standard.
    vi. Certifying staff are able to determine when the aircraft or aircraft component is ready to release to service and when it should not be released to service.
    vii. Quality audit staff are able to monitor compliance with CAR-145 identifying non-compliance in an effective and timely manner so that the organisation may remain in compliance with CAR-145.

Competence assessment should be based upon the procedure specified in GM2 to 145.30(e).

AMC2 145.30(e) Personnel requirements

In respect to the understanding of the application of human factors and human performance issues, all maintenance organisation personnel should have received an initial and continuation human factors training.

This should concern to a minimum:

(a) Post-holders, managers, supervisors;
(b) Certifying staff, support staff and mechanics;
(c) Technical support personnel such as planners, engineers, technical record staff;
(d) Quality control/assurance staff;
(e) Specialised services staff;
(f) Human factors staff/human factors trainers;
(g) Store department staff, purchasing department staff;
(h) Ground equipment operators.

1. Initial human factors training should cover all the topics of the training syllabus specified in GM 145.30(e) either as a dedicated course or else integrated within other training. The syllabus may be adjusted to reflect the particular nature of the organisation. The syllabus may also be adjusted to meet the particular nature of work for each function within the organisation. For example:
   (a) small organisations not working in shifts may cover in less depth subjects related to teamwork and communication;
   (b) planners may cover in more depth the scheduling and planning objective of the syllabus and in less depth the objective of developing skills for shift working.

   All personnel, including personnel being recruited from any other organisation should receive initial human factors training compliant with the organisation's training standards prior to commencing actual job function, unless their competence assessment justifies that there is no need for such training. Newly directly employed personnel working under direct supervision may receive training within 6 months after joining the maintenance organisation.

2. The purpose of human factors continuation training is primarily to ensure that staff remains current in terms of human factors and also to collect feedback on human factors issues. Consideration should be given to the possibility that such training has the involvement of the quality department. There should be a procedure to ensure that feedback is formally passed from the trainers to the quality department to initiate action where necessary.

Human factors continuation training should be of an appropriate duration in each two year period in relation to relevant quality audit findings and other internal/external sources of information on human errors in maintenance available to the organisation.

3. Human factors training may be conducted by the maintenance organisation itself, or independent trainers, or any training organisations acceptable to the GCAA.

4. The human factors training procedures should be specified in the maintenance organisation exposition.

AMC3 145.30(e) Personnel requirements

Additional training in fuel tank safety as well as associated inspection standards and maintenance procedures should be required for maintenance organisations' technical personnel, especially technical personnel involved in the compliance of CDCCL tasks.

Current guidance is provided for training to maintenance organisation personnel in Appendix VIII to CAR145.

AMC4 145.30(e) Personnel requirements

Competency assessment should include the verification for the need of additional EWIS training when relevant.

GCAA guidance is provided for EWIS training program to maintenance organisation personnel in Acceptable Means of Compliance AMC-001.

AMC 145.30(f) Personnel requirements

1. Continued airworthiness non-destructive testing means such testing specified by the type certificate holder/aircraft or engine or propeller manufacturer in accordance with the maintenance data as specified in CAR 145.45 for in service aircraft/aircraft components for the purpose of determining the continued fitness of the product to operate safely.
2. Appropriately qualified means to Level 1, 2 or 3 as defined by the European Standard EN4179, NAS410, ATA Specification 105, ISO 9712 or any other equivalent standard acceptable to the GCAA dependent upon the non-destructive testing function to be carried out.
3. Notwithstanding the fact that Level 3 personnel may be qualified in accordance with para 2 of this AMC, to establish and authorise methods, techniques, etc., this does not permit such personnel to deviate from methods and techniques published by the type certificate holder/manufacturer in the form of continued airworthiness data, such as in non-destructive test manuals or service bulletins, unless the manual or service bulletin expressly permits such deviation.
4. Notwithstanding the general references in accordance with para 2 of this AMC, or any other equivalent Aerospace NDT standard controlled by a board acceptable to GCAA, all examinations should be conducted by personnel or organisations under the general control of such a board.

5. Particular non-destructive test means any one or more of the following; Liquid penetrant, magnetic particle, eddy current, ultrasonic and radiographic methods including X ray and gamma ray and Thermography.
6. It should be noted that new methods are and will be developed, Until such time an agreed standard is established such methods should be carried out in accordance with the particular equipment manufacturers' recommendations including any training and examination process to ensure competence of the personnel in the process.
7. Any maintenance organisation approved under CAR-145 that carries out NDT should establish an NDT written practice refer to in the exposition
8. Boroscoping and other techniques such as de-lamination coin tapping are non-destructive inspections rather than non-destructive testing. Notwithstanding such differentiation, the maintenance organisation should establish an exposition procedure accepted by the GCAA to ensure that personnel who carry out and interpret such inspections are properly trained and assessed for their competence in the process. Non-destructive inspections, not being considered as NDT by CAR-145 are not listed in Appendix II to CAR-145 under class rating D1.

AMC 145.30(g) Personnel requirements

1. For the purposes of CAR 66.20(a)(1) and CAR 66.20(a)(3)(ii) personnel, minor scheduled line maintenance means any minor scheduled inspection/check up to and including a weekly check specified in the operators approved aircraft maintenance programme. For aircraft maintenance programmes that do not specify a weekly check, the GCAA will determine the most significant check that is considered equivalent to a weekly check.
2. Typical tasks permitted after appropriate task training to be carried out by the CAR 66.20(a)(1) and the CAR 66.20(a)(3)(ii) personnel for the purpose of issuing an aircraft certificate of release to service as specified in 145.50 as part of minor scheduled line maintenance or simple defect rectification are contained in the following list:

   (a) Replacement of wheel assemblies.
   (b) Replacement of wheel brake units.
   (c) Replacement of emergency equipment.
   (d) Replacement of ovens, boilers and beverage makers.
   (e) Replacement of internal and external lights, filaments and flash tubes.
   (f) Replacement of windscreen wiper blades.
   (g) Replacement of passenger and cabin crew seats, seat belts and harnesses.
   (h) Closing of cowlings and re-fitment of quick access inspection panels.
   (i) Replacement of toilet system components but excluding gate valves.

(j) Simple repairs and replacement of internal compartment doors and placards but excluding doors forming part of a pressure structure.

(k) Simple repairs and replacement of overhead storage compartment doors and cabin furnishing items.

(l) Replacement of static wicks.

(m) Replacement of aircraft main and APU aircraft batteries.

(n) Replacement of in-flight entertainment system components other than public address.

(o) Routine lubrication and replenishment of all system fluids and gases.

(p) The de-activation only of sub-systems and aircraft components as permitted by the operator's minimum equipment list where such de-activation is agreed by the GCAA as a simple task.

(q) Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers or the use of special tools.

(r) As a simple task for a particular aircraft type. This may include defect deferment when all the following conditions are met:

i. There is no need for troubleshooting; and

ii. The task is in the MEL; and

iii. The maintenance action required by the MEL is agreed by the GCAA to be simple.

In the particular case of helicopters, and in addition to the items above, the following:

(a) removal and installation of Helicopter Emergency Medical Service (HEMS) simple

(b) internal medical equipment.

(c) removal and installation of external cargo provisions (i.e., external hook, mirrors) (d) other than the hoist.

(e) removal and installation of quick release external cameras and search lights.

(f) removal and installation of emergency float bags, not including the bottles.

(g) removal and installation of external doors fitted with quick release attachments.

(h) removal and installation of snow pads/skid wear shoes/slump protection pads.

No task which requires troubleshooting should be part of the authorised maintenance actions. Release to service after rectification of deferred defects should be permitted as long as the task is listed above.

3. The requirement of having appropriate aircraft rated certifying staff qualified as category B1, B2 or B3, as appropriate; in the case of aircraft line maintenance does not imply that the organisation must have B1, B2 or B3 personnel at every line station. The MOE should have a procedure on how to deal with defects requiring B1, B2 or B3 certifying staff.

4. The GCAA may accept that in the case of aircraft line maintenance an organisation has only B1, B2 or B3 certifying staff, as appropriate, provided that the GCAA is satisfied that the scope of work, as defined in the Maintenance Organisation Exposition, does not need the availability of all B1, B2 or B3 certifying staff.

Special attention should be taken to clearly limit the scope of scheduled and non-scheduled line maintenance (defect rectification) to only those tasks that can be certified by the available certifying staff category.

AMC 145.30(h) Personnel requirements

In accordance with 145.30(h) and 145.35, the qualification requirements (basic licence, aircraft ratings, recent experience and continuation training) are identical for certifying staff and for support staff. The only difference is that support staff cannot hold certification privileges when performing this role since during base maintenance the release to service will be issued by category C certifying staff.

Nevertheless, the organisation may use as support staff (for base maintenance) persons who already hold certification privileges for line maintenance.

AMC 145.30(i) Personnel requirement

Appropriately qualified means:

a) A holder of GCAA CAR 66 basic licence, or a holder of a relevant technical degree, or a holder of a recognized technical training certificate,

b) Can demonstrate sufficient experience on the intended component maintenance that meets the standards of CAR-145,

c) Successfully completed the relevant component maintenance training, and

d) Shall be conversant with the applicable GCAA regulations.

AMC 145.30(j)(4) Personnel requirements

1. For the issue of a limited certification authorisation:

(a) the commander should hold either a valid air transport pilots licence (ATPL), or a commercial pilot licence (CPL)

(b) the flight engineer should hold an ATPL, CPL or a flight engineer licence acceptable to the GCAA, on the aircraft type.

2. In addition the limited certification authorisation is subject to the maintenance organisation exposition containing procedures to address the personnel requirements of 145.30(e) and associated AMC and guidance material. The procedures should be accepted by the GCAA and should include as a minimum:

(a) Completion of adequate maintenance airworthiness regulation training.

(b) Completion of adequate task training for the specific task on the aircraft. The task training should be of sufficient duration to ensure that the individual has a thorough understanding of the task to be completed and will involve training in the use of associated maintenance data.

(c) Completion of the procedural training as specified in CAR-145.

2(i) Typical tasks that may be certified and/or carried out by the commander holding an ATPL or CPL are minor maintenance or simple checks included in the following list:

(a) Replacement of internal lights, filaments and flash tubes.
(b) Closing of cowlings and re-fitment of quick access inspection panels.
(c) Role changes e.g. stretcher fit, dual controls, FLIR, doors, photographic equipment etc.
(d) Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools.
(e) Any check/replacement involving simple techniques consistent with this AMC and as agreed by the GCAA.

2(ii) Holders of a valid Flight engineer licence acceptable to the GCAA, on the aircraft type may only exercise this limited certification Authorisation privilege when performing the duties of a flight engineer.

In addition to paragraph 2(i)(a) to (e) other typical minor maintenance or simple defect rectification tasks that may be carried out are included in the following list:

(a) Replacement of wheel assemblies.
(b) Replacement of simple emergency equipment that is easily accessible.
(c) Replacement of ovens, boilers and beverage makers.
(d) Replacement of external lights.
(e) Replacement of passenger and cabin crew seats, seat belts and harnesses.
(f) Simple replacement of overhead storage compartment doors and cabin furnishing items.
(g) Replacement of static wicks.
(h) Replacement of aircraft main and APU aircraft batteries.
(i) Replacement of in-flight entertainment system components other than public address.
(j) The de-activation only of sub-systems and aircraft components as permitted by the operator's minimum equipment list where such de-activation is agreed by the GCAA as a simple task.
(k) Re-setting of tripped circuit breakers under the guidance of maintenance control.
(l) Any other task agreed by the GCAA as a minor or simple task for a particular aircraft type.

3. The Authorisation should have a finite life of twelve months subject to satisfactory re-current training on the applicable aircraft type.

AMC 145.30(j)(5) Personnel requirements

1. For the purposes of this sub-paragraph —unforeseen–means that the aircraft grounding could not reasonably have been predicted by the operator because the defect was unexpected due to being part of a hitherto reliable system.

2. A one-off authorisation should only be considered for issue by the quality department of the contracted organisation or operator’s CAR 145 AMO after it has made a reasoned judgment that such a requirement is appropriate under the circumstances and at the same time maintaining the required airworthiness

standards. The organisation's quality department will need to assess each situation individually prior to the issue of a one-off authorisation.

3. A one-off authorisation should not be issued where the level of certification required could exceed the knowledge and experience level of the person it is issued to. In all cases, due consideration should be given to the complexity of the work involved and the availability of required tooling and/or test equipment needed to complete the work.

AMC 145.30(j)(5)(i) Personnel requirements

In those situations where the requirement for a one off authorisation to issue a CRS for a task on an aircraft type for which certifying staff does not hold a type-rated authorisation has been identified, the following procedure is recommended:

1. Flight crew should communicate full details of the defect to the operator's supporting maintenance organisation. If necessary the supporting maintenance organisation will then request the use of a one off Authorisation from the quality department.

2. When issuing a one-off authorisation, the quality department of the organisation should verify that:

   (a) Full technical details relating to the work required to be carried out have been established and passed to the certifying staff.

   (b) The organisation has an approved procedure in place for coordinating and controlling the total maintenance activity undertaken at the location under the Authority of the one off authorisation.

   (c) The person to whom a one-off authorisation is issued has been provided all the necessary information and guidance relating to maintenance data and any special technical instructions associated with the specific task undertaken. A detailed step by step worksheet has been defined by the organisation, communicated to the one off authorisation holder.

   (d) The person holds authorisations of equivalent level and scope on other aircraft type of similar technology, construction and systems.

3. The one-off authorisation holder should sign off the detailed step by step worksheet when completing the work steps. The completed tasks should be verified by visual examination and/or normal system operation upon return to an appropriately approved CAR-145 maintenance facility.

AMC 145.30(j)(5)(ii) Personnel requirements

This paragraph addresses staff not employed by the maintenance organisation who meet the requirements of 145.30(j) (5). In addition to the items listed in AMC 145.30(j) (5) (i), paragraph 1, 2(a), (b) and (c) and 3 the quality department of the organisation may issue such one off authorisation providing full qualification details relating to the proposed certifying personnel are verified by the quality department and made available at the location.

GM 145.30(a), 145.30(b) and 145.30(c) Personnel requirements

1) Persons required by CAR 145.30(a), CAR 145.30(b) and CAR 145.30(c) must be located at the principal place of business of the CAR-145 Approval Certificate Holder.

2). The minimum requirements for CAR 145 Post Holders as per CAR 145.30(a), CAR 145.30(b) and CAR 145.30(c), refer APPENDIX XI to CAR 145.

GM1 145.30(e) Personnel requirements

THE TRAINING SYLLABUS FOR HUMAN FACTOR TRAINING

The training syllabus below identifies the topics and subtopics to be addressed during the human factors training.

The maintenance organisation may combine, divide, change the order of any subject of the syllabus to suit its own needs, as long as all subjects are covered to a level of detail appropriate to the organisation and its personnel.

Some of the topics may be covered in separate training (health and safety, management, supervisory skills, etc.) in which case duplication of training is not necessary.

Where possible, practical illustrations and examples should be used, especially accident and incident reports.

Topics should be related to existing legislation, where relevant. Topics should be related to existing guidance/advisory material, where relevant (e.g. ICAO HF Digests and Training Manual).

Topics should be related to maintenance engineering where possible; too much unrelated theory should be avoided.

1. General/Introduction to human factors

1.1. Need to address human factors

1.2. Statistics

1.3. Incidents

2. Safety Culture/Organisational factors

3. Human Error

3.1. Error models and theories

3.2. Types of errors in maintenance tasks

3.3. Violations

3.4. Implications of errors

3.5. Avoiding and managing errors

3.6. Human reliability

4. Human performance & limitations

4.1. Vision

4.2. Hearing
4.3. Information-processing
4.4. Attention and perception
4.5. Situational awareness
4.6. Memory
4.7. Claustrophobia and physical access
4.8. Motivation
4.9. Fitness/Health
4.10. Stress
4.11. Workload management
4.12. Fatigue
4.13. Alcohol, medication, drugs
4.14. Physical work
4.15. Repetitive tasks/complacency

5. Environment

5.1. Peer pressure
5.2. Stressors
5.3. Time pressure and deadlines
5.4. Workload
5.5. Shift Work
5.6. Noise and fumes
5.7. Illumination
5.8. Climate and temperature
5.9. Motion and vibration
5.10. Complex systems
5.11. Hazards in the workplace
5.12. Lack of manpower
5.13.Distractions and interruptions

6. Procedures, information, tools and practices

6.1. Visual Inspection
6.2. Work logging and recording
6.3. Procedure – practice/mismatch/norms
6.4. Technical documentation – access and quality
6.5. Critical maintenance tasks and error-capturing methods (independent inspection, re-inspection, etc.)

7. Communication

7.1. Shift/Task handover

7.2. Dissemination of information

7.3. Cultural differences

8. Teamwork

8.1. Responsibility

8.2. Management, supervision and leadership

8.3. Decision making

9. Professionalism and integrity

9.1. Keeping up to date; currency

9.2. Error provoking behaviour

9.3. Assertiveness

10. Organisation's HF program

10.1. Reporting errors

10.2. Disciplinary policy

10.3. Error investigation

10.4. Action to address problems

10.5. Feedback

GM2 145.30(e) Personnel requirements

COMPETENCE ASSESSMENT PROCEDURE

The organisation should develop a procedure describing the process of competence assessment of personnel. The procedure should specify:

1. persons responsible for this process,
2. when the assessment should take place,
3. credits from previous assessments,
4. validation of qualification records,
5. means and methods for the initial assessment,
6. means and methods for the continuous control of competence including feedback on personnel performance,
7. competences to be observed during the assessment in relation with each job function,
8. actions to be taken when assessment is not satisfactory,

9. recording of assessment results.For example, according to the job functions and the scope, size and complexity of the organisation, the assessment may consider the following (the table is not exhaustive):

	managers	Planners	Supervisor	Certifying staff and support	Mechanics	Specialized service staff	Quality audit staff	Store Supervisor
Knowledge of applicable officially recognised standards						X	X	
Knowledge of auditing techniques: planning, conducting and reporting							X	
Knowledge of human factors, human performance and Limitations	X	X	X	X	X	X	X	X
Knowledge of logistics processes	X	X	X					X
Knowledge of organisation capabilities, privileges and Limitations	X	X	X	X		X	X	
Knowledge of CAR-M, CAR-145 and any other relevant Regulations	X	X	X	X			X	
Knowledge of SMS (if required)applicable)	X	X	X	X	X	X	X	X
Knowledge of relevant parts of the maintenance organisation exposition and procedures	X	X	X	X	X	X	X	X
Knowledge of occurrence reporting system and understanding of the importance of reporting occurrences, incorrect maintenance data and existing or potential defects		X	X	X	X	X		X
Knowledge of safety risks linked to the working environment	X	X	X	X	X	X	X	
Knowledge on CDCCL when relevant	X	X	X	X	X	X	X	
Knowledge of EWIS when relevant	X	X	X	X	X	X	X	
Understanding of professional integrity, behaviour and attitude towards safety Understanding of conditions for ensuring continuing airworthiness of aircraft and components	X	X	X	X X	X	X	X X	X
Understanding of his/her own human performance and Limitations	X	X	X	X	X	X	X	X
Understanding of personnel authorisations and limitations	X	X	X	X	X	X	X	X
Understanding critical maintenance task Ability to compile and control completed work cards Ability to consider human performance and limitations.	 X	X X X	X X X	X X X	X		X X	
Ability to determine required qualifications for task performance		X	X	X				

Ability to identify and rectify existing and potential unsafe Conditions			X	X	X	X	X	

Ability to manage third parties involved in maintenance activity		X	X					
Ability to confirm proper accomplishment of maintenance tasks Ability to identify and properly plan performance of critical maintenance task	X	X X	X X	X X	X	X		
Ability to prioritise tasks and report discrepancies		X	X	X	X			
Ability to process the work requested by the operator		X	X	X				
Ability to promote the safety and quality policy	X		X					
Ability to properly process removed, uninstalled and rejected Parts			X	X	X	X		X
Ability to properly record and sign for work accomplished			X	X	X	X		
Ability to recognise the acceptability of parts to be installed prior to fitment				X	X			
Ability to split complex maintenance tasks into clear stages Ability to understand work orders, work cards and refer to and use applicable maintenance data		X X	X	X	X	X	X	
Ability to use information systems	X	X	X	X	X	X	X	X
Ability to use, control and be familiar with required tooling and/or equipment Adequate communication and literacy skills Analytical and proven auditing skills (for example, objectivity, fairness, open-mindedness, determination, …)	X	X	X X	X X	X X	X X	X X	X
Maintenance error investigation skills							X	
Resources management and production planning skills	X	X	X					
Teamwork, decision-making and leadership skills	X		X					

GM3 145.30(e) Personnel requirements

TEMPLATE FOR RECORDING EXPERIENCE/TRAINING

The following template may be used to record the professional experience gained in an organisation and the training received and be considered during the competence assessment of the individual in another organisation.

CAR 145- MAINTENANCE ORGANIZATIONS

Aviation Maintenance Personnel Experience Credential Name: Address: Telephone: E-mail:					
Independent worker:					
Trade Group: Airframe □		Engine □	Electric □	Avionics □	Other (Specify) □ .....
Employer's Details (When Applicable) Name: Address: Telephone:					
Maintenance Organisation Details Name: Address: Telephone: Approval Number: Period of employment		From:		To:	
Domain of Employment □ Planning □ Store Department		□ Engineering □ Purchasing		□ Technical Records	
Mechanics/ Technician					
□ Line Maintenance □ Servicing □ Scheduled Maintenance □ Trouble-Shooting		□ Base Maintenance □ Removal/ Installation □ Inspection □ Trouble-Shooting □ Repair		□ Component Maintenance □ Testing/ Inspection □ Repair □ Overhaul □ Re-treatment □ Reassembly	
A/C Type		A/C Type		Component Type	
Certifying Staff and Support Staff					
□ Cat. A A/C Type	□ Cat. B1 A/C Type	□ Cat. B2 A/C Type	□ Cat. C A/C Type	□ Cat. Component Component Type	□ Others (e.g. NDT) Specify
Certification Privileges:		Yes		NO	
□ Specialised Services	Speciality (NDT, Component, Welding, etc.):				
□ Skilled Personnel	Speciality (Sheet Metal, Structures, Wireman, Upholstery, etc.):				
□ Ground Equipment Operation					
□ Quality Control		□ Quality Assurance		□ Training	

CAR 145- MAINTENANCE ORGANIZATIONS

Total Number of Check Boxes Ticked:	
Details of Employment:	
Training Received form the contracting Organisation:	
Date: Nature of Training:	
Certified	
By: Name: Date: Position: Signature: Contact Details:	
Advisory Note: A copy of the present credential will be kept for at least 3 years from its issuance by the maintenance organisation.	

GM 145.30(f) Personnel requirements

Refer Appendix X to CAR-145

GM 145.30(j)(4) Personnel requirements

FLIGHT CREW

For the holder of a flight engineer licence acceptable to the GCAA, Appendix 1 to JAR 4.160 Technical Training Course (TTC) details the following subjects.

Familiarization with basic maintenance procedures, to give additional technical background knowledge, especially with respect to the implication of systems malfunctions, and to train the applicant in maintenance related to the Minimum equipment list (MEL).

The theoretical knowledge instruction consists of 100 hours and includes the following elements:

(a) Airframe and systems
(b) Electrics
(c) Power plant and emergency equipment
(d) Flight instruments and automatic flight control systems

Practical skills training provided by an organisation approved under CAR-145 is given which includes 35 hours practical experience in the following subjects:

i. Fuselage and flight controls
ii. Engines
iii. Instruments
iv. Landing gear and brakes
v. Cabin/cockpit/emergency equipment
vi. De-icing/anti-icing related maintenance activities,
vii. Ground handling and servicing
viii. Certificate of completion

Following successful completion of the technical training, the training organisation carrying out the theoretical knowledge instruction and/or the practical skill training, should provide the applicant with a certificate of satisfactory completion of the course, or part thereof.

CAR 145.35 Certifying staff and support staff

(a) In addition to the appropriate requirements of 145.30(g) and 145.30(h), the organisation shall ensure that certifying staff and support staff have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated organisation procedures. In the

case of certifying staff, this must be accomplished before the issue or re-issue of the certification authorisation.

(i) "Support Staff" means those staff holding CAR 66 aircraft maintenance licence in category B1, B2 and/or B3 with the appropriate type ratings, working in base maintenance environment while not necessarily holding certification authorisation.

(ii) "Relevant aircraft and/or components", means those aircraft or components specified in the particular certification authorisation.

(iii) Certification authorisation' means the Authorisation issued to certifying staff by the organisation and which specifies the fact that they may sign certificates of release to service within the limitations stated in such Authorisation on behalf of the approved organisation.

(iv) Certifying staff or support staff, when exercising the certification privilege of the Authorization issued by the organisation, cannot transfer or delegate the certification privilege to another person.

(b) Excepting those cases listed in 145.30(j) the organisation may only issue a certification Authorisation to certifying staff in relation to the basic categories or subcategories and any type rating listed on the aircraft maintenance licence as required by CAR 66, subject to the licence remaining valid throughout the validity period of the Authorisation and the certifying staff remaining in compliance with CAR 66.

(c) The organisation shall ensure that all certifying staff and support staff are involved in at least six months of actual relevant aircraft or component maintenance experience in any consecutive two year period. For the purpose of this paragraph involved in actual relevant aircraft or component 'maintenance' means that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification Authorisation and/or has actually carried out maintenance on at least some of the aircraft type systems specified in the particular certification authorisation. (See AMC 66.20(b)(2))

(d) The organisation shall ensure that all certifying staff and support staff receive sufficient continuation training in each two year period to ensure that such staff have up-to-date knowledge of aviation legislation, relevant technology, organisation procedures and human factor issues.

(e) The organisation shall establish a programme for continuation training for certifying staff and support staff, including a procedure to ensure compliance with the relevant paragraphs of 145.35 as the basis for issuing certification authorisations under this regulation to certifying staff, and a procedure to ensure compliance with CAR 66.

(f) Except where any of the unforeseen cases of 145.30(j)(5) apply, the organisation shall assess all prospective certifying staff for their competence, qualification and capability to carry out their intended certifying duties in accordance with a procedure as specified in the exposition prior to the issue or reissue of a certification Authorisation under this regulation.

(g) When the conditions of paragraphs (a), (b), (d), (f) and, where applicable, paragraph (c) have been fulfilled by the certifying staff, the organisation shall issue a certification Authorisation that clearly specifies the scope and limits of such authorisation. Continued validity of the certification Authorisation is dependent upon continued compliance with paragraphs (a), (b), (d), and where applicable, paragraph (c).

(h) The certification Authorisation must be in a style that makes its scope clear to the certifying staff and any authorised person who may require examining the authorisation. Where codes are used to define scope, the organisation shall make a code translation readily available. 'Authorised person' means the officials of the Authority who has responsibility for the oversight of the maintained aircraft or component.

(i) The person responsible for the quality system shall also remain responsible on behalf of the organisation for issuing certification authorisations to certifying staff. Such person may nominate other persons to actually issue or revoke the certification authorisations in accordance with a procedure as specified in the exposition.

(j) The organisation shall maintain a record of all certifying staff and support staff , which shall contain:

i. the details of any aircraft maintenance licence held under CAR 66; and
ii. all relevant training completed; and
iii. the scope of the certification authorisations issued, where relevant, and
iv. particulars of staff with limited or one-off certification authorisations.

The organisation shall retain the record for at least three years after the staff referred in this paragraph have ceased employment with the organisation or as soon as the Authorisation has been withdrawn. In addition, upon request, the maintenance organisation shall furnish staff referred to in this paragraph with a copy of their personal record on leaving the organisation.

The staff referred to in this paragraph shall be given access on request to their personal records as detailed above.

(k) The organisation shall provide certifying staff with a copy of their certification Authorisation in either a documented or electronic format.

(l) Certifying staff shall produce their certification Authorisation to any authorised person within 24 hours.

(m) The minimum age for certifying staff and support staff is 21 years.

(n) The holder of a category A aircraft maintenance licence may only exercise certification privileges on a specific aircraft type following the satisfactory completion of the relevant category A aircraft task training carried out by an organisation appropriately approved in accordance with CAR-145 or CAR-147. This training shall include practical hands on training and theoretical training as appropriate for

each task authorised. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment carried out by the organisation.

(o) The holder of a category B2 aircraft maintenance licence may only exercise the certification privileges described in CAR 66.20(a)(3)(ii) of CAR 66 following the satisfactory completion of:

i. the relevant category A aircraft task training, and

ii. 6 months of documented practical experience covering the scope of the authorisation that will be issued. The task training shall include practical hands on training and theoretical training as appropriate for each task authorised. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment. Task training and examination/assessment shall be carried out by the maintenance organisation issuing the certifying staff authorisation.

The practical experience shall be also obtained within such maintenance organisation

NOTE: The certification privileges are limited to the rating already endorsed in the B2 aircraft maintenance licence.

AMC 145.35(a) Certifying staff and support staff

1. Holding a CAR 66 licence with the relevant type/group rating, or a national qualification in the case of components, does not mean by itself that the holder is qualified to be authorised as certifying staff and/or support staff. The organisation is responsible for assessing the competence of the holder for the scope of maintenance to be authorised.

2. The sentence “the organisation shall ensure that certifying staff and support staff have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated organisation procedures” implies that the person has received training and has been successfully assessed on:
   i. the type of aircraft or component;
   ii. the differences on:
      a) the particular model/variant;
      b) the particular configuration.

   The organisation should specifically ensure that the individual competencies have been established with regards to:
   i. relevant knowledge, skills and experience in the product type and configuration to be maintained, taking into account the differences between the generic aircraft type rating training that the person received and the specific configuration of the aircraft to be maintained.
   ii. appropriate attitude towards safety and observance of procedures.

iii. knowledge of the associated organisation and operator procedures (i.e. handling and identification of components, MEL use, Technical Log use, independent checks, etc.)

3. Some special maintenance tasks may require additional specific training and experience, including but not limited to:
   i. in-depth troubleshooting;
   ii. very specific adjustment or test procedures;
   iii. rigging;
   iv. engine run-up, starting and operating the engines, checking engine performance characteristics, normal and emergency engine operation, associated safety precautions and procedures;
   v. extensive structural/system inspection and repair;
   vi. other specialised maintenance required by the maintenance programme.

   For engine run-up training, simulators and/or real aircraft should be used.

4. The satisfactory assessment of the competence should be conducted in accordance with a procedure approved by the GCAA (item 3.4 of the MOE, as described in AMC 145.70(a)).

5. The organisation should hold copies of all documents that attest the competence and recent experience for the period described in 145.35(j).

   Additional information is provided in AMC 66.20(b)3.

6. Before a certifying staff authorisation can be extended to include coverage of aircraft of a type already held by the certifying staff but with some differences (which are not explicitly detailed in Appendix I to AMC to CAR 66), the holder should undergo differences training that meet the following:
   i. All type training including differences courses intended to extend a licence coverage to include additional engine type, shall be carried out in accordance with CAR-66 and CAR-147.

   ii. All model/variant differences training (excluding new engine type) may be carried out either by the CAR-147 training organisation or the CAR-145 approved organisation, provided it is conducted in accordance with an approved procedure contained in the MOE or the MTOE.

   iii. Self-study technique using CD, online self-training or any other means not complying with the standards defined in the MOE is not acceptable.

AMC 145.35(b) Certifying staff and support staff

The organisation issues the certification Authorisation when satisfied that compliance has been established with the appropriate paragraphs of CAR-145 and CAR-66. In granting the certification authorisation the maintenance organisation approved under CAR-145 needs to be satisfied that the person holds a valid aircraft maintenance licence and may need to confirm such fact with the GCAA.

AMC 145.35(c) Certifying staff and support staff

For the interpretation of "6 months of actual relevant aircraft maintenance experience in any consecutive 2-year period", the provisions of AMC 66.20(b)2 are applicable.

AMC 145.35(d) Certifying staff and support staff

1. Continuation training is a two way process to ensure that certifying staff remain current in terms of procedures, human factors and technical knowledge and that the organisation receives feedback on the adequacy of its procedures and maintenance instructions. Due to the interactive nature of this training, consideration should be given to the possibility that such training has the involvement of the quality department to ensure that feedback is actioned. Alternatively, there should be a procedure to ensure that feedback is formally passed from the training department to the quality department to initiate action.

2. Continuation training should cover changes in relevant requirements such as CAR-145, changes in organisation procedures and the modification standard of the products being maintained plus human factor issues identified from any internal or external analysis of incidents. It should also address instances where staff failed to follow procedures and the reasons why particular procedures are not always followed. In many cases the continuation training will reinforce the need to follow procedures and ensure that incomplete or incorrect procedures are identified to the company in order that they can be corrected. This does not preclude the possible need to carry out a quality audit of such procedures.

3. Continuation training should be of sufficient duration in each 2 year period to meet the intent of 145.35(d) and may be split into a number of separate elements. 145.35(d) requires such training to keep certifying staff updated in terms of relevant technology, procedures and human factors issues which means it is one part of ensuring quality. Therefore sufficient duration should be related to relevant quality audit findings and other internal / external sources of information available to the organisation on human errors in maintenance. This means that in the case of an organisation that maintains aircraft with few relevant quality audit findings, continuation training could be limited to days rather than weeks, whereas a similar organisation with a number of relevant quality audit findings, such training may take several weeks. For an organisation that maintains aircraft components, the duration of continuation training would follow the same philosophy but should be scaled down to reflect the more limited nature of the activity. For example certifying staff who release hydraulic pumps may only require a few hours of continuation training whereas those who release turbine engine may only require a few days of such training. The content of continuation training should be related to relevant quality audit findings and it is recommended that such training is reviewed at least once in every 24 month period.

4. The method of training is intended to be a flexible process and could, for example, include a CAR147 continuation training course, aeronautical college courses, internal short duration courses, seminars, etc. The elements, general content and length of such training should be specified in the maintenance organisation exposition unless such training is undertaken by an organisation approved under CAR-

147 when such details may be specified under the approval and cross referenced in the maintenance organisation exposition.

AMC 145.35(e) Certifying staff and support staff

The programme for continuation training should list all certifying staff and support staff and when training will take place, the elements of such training and an indication that it was carried out reasonably on time as planned. Such information should subsequently be transferred to the certifying staff and support staff record as required by 145.35(j).

AMC 145.35(f) Certifying staff and support staff

1. As stated in 145.35 (f), except where any of their unforeseen cases of 145.30(j)(5) applies, all prospective certifying staff and support staff should be assessed for competence related to their intended duties in accordance with AMCs 1, 2, 3 and 4 to 145.30(e), as applicable.

AMC 145.35(j) Certifying staff and support staff

1. The following minimum information as applicable should be kept on record in respect of each certifying staff and support person:
    (a) Name
    (b) Date of Birth
    (c) Basic Training
    (d) Type Training
    (e) Continuation Training
    (f) Experience
    (g) Qualifications relevant to the authorisation
    (h) Scope of the authorisation
    (i) Date of first issue of the authorisation
    (j) If appropriate - expiry date of the authorisation
    (k) Identification Number of the authorisation
2. The record may be kept in any format but should be controlled by the organisation‘s quality department. This does not mean that the quality department should run the record system.
3. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.
4. The authority is an authorised person when investigating the records system for initial and continued approval or when the GCAA has cause to doubt the competence of a particular person.

AMC 145.35(n) Certifying staff and support staff

1. It is the responsibility of the CAR-145 organisation issuing the category A certifying staff authorisation to ensure that the task training received by this person covers all the tasks to be authorised. This is particularly important in those cases where the task training has been provided by a CAR-147 organisation or by a CAR-145 organisation different from the one issuing the authorisation.

2. 'Appropriately approved in accordance with CAR-147' means an organisation holding an approval to provide category A task training for the corresponding aircraft type.

3. 'Appropriately approved in accordance with CAR-145' means an organisation holding a maintenance organisation approval for the corresponding aircraft type.

AMC 145.35(o) Certifying staff and support staff

1. The privilege for a B2 licence holder to release minor scheduled line maintenance and simple defect rectification in accordance with 66.20(a)(3)(ii) can only be granted by the CAR-145 approved organisation where the licence holder is employed/contracted after meeting all the requirements specified in 145.35(o). This privilege cannot be transferred to another CAR-145 approved organisation.

2. When a B2 licence holder already holds a certifying staff authorisation containing minor scheduled line maintenance and simple defect rectification for a particular aircraft type, new tasks relevant to category A can be added to that type without requiring another 6 months of experience. However, task training (theoretical plus practical hands-on) and examination/assessment for these additional tasks is still required.

3. When the certifying staff authorisation intends to cover several aircraft types, the experience may be combined within a single 6-month period.

4. For the addition of new types to the certifying staff authorisation, another 6 months should be required unless the aircraft is considered similar per AMC 66.20(b)2 to the one already held.

5. The term "6 months of experience" may include full-time employment or part-time employment. The important aspect is that the person has been involved during a period of 6 months (not necessarily every day) in those tasks which are going to be part of the authorisation.

CAR 145.40 Equipment, tools and material

(a) The organisation shall have available and use the necessary equipment, tools and material to perform the approved scope of work:

    1. Where the manufacturer specifies a particular tool or equipment, the organisation shall use that tool or equipment, unless the use of alternative tooling or equipment is agreed by the GCAA via procedures specified in the exposition.

2. Equipment and tools must be permanently available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. Such cases shall be detailed in an exposition procedure.

3. An organisation approved for base maintenance shall have sufficient aircraft access equipment and inspection platforms/docking such that the aircraft can be properly inspected.

(b) The organisation shall ensure that all tools, equipment and particularly test equipment, as appropriate, are controlled and calibrated according to an officially recognized standard at a frequency to ensure serviceability and accuracy. Records of such calibrations and traceability to the standard used shall be kept by the organisation.

AMC 145.40(a) Equipment, tools and material

Once the applicant for approval has determined the intended scope of approval for consideration by the GCAA, it will be necessary to show that all tools and equipment as specified in the maintenance data can be made available when needed. All such tools and equipment that require to be controlled in terms of servicing or calibration by virtue of being necessary to measure specified dimensions and torque figures etc., should be clearly identified and listed in a control register including any personal tools and equipment that the organisation agrees can be used.

AMC 145.40(b) Equipment, tools and material

1. The control of these tools and equipment requires that the organisation has a procedure to inspect/service and, where appropriate, calibrate such items on a regular basis and indicate to users that the item is within any inspection or service or calibration time-limit. A clear system of labelling all tooling, equipment and test equipment is therefore necessary giving information on when thenext inspection or service or calibration is due and if the item is unserviceable for any other reason where it may not be obvious. A register should be maintained for all precision tooling and equipment together with a record of calibrations and standards used.

2. Inspection, service or calibration on a regular basis should be in accordance with the equipment manufacturers' instructions except where the organisation can show by results that a different time period is appropriate in a particular case.

3. In this context officially recognized standard means those standards established or published by an official body whether having legal personality or not, which are widely recognized by the air transport sector as constituting good practice or any other standard accepted by the GCAA.

   NOTE: Official body in this context meaning an ISO 17025 accreditation body which is a signatory of the ILAC MRA (Full Members) or an ILAC Recognised Regional Cooperation Body (Signatories and Recognised Regional Bodies are listed on ILAC Membership website) or organisation accredited by National Accreditation Board.).

CAR 145.42 Acceptance of components

(a) All components shall be classified and appropriately segregated into the following categories:

1. Components other than those under points 1a and 1b which are in a satisfactory condition, released on an AW Form 1 or equivalent and marked in accordance with CAR 21 Subpart Q or equivalent.

1a. Restored UAE complete engine which is in a satisfactory condition released on an AW Form 1 as per 145.50 by an appropriately rated GCAA AMO.

1b. Components authorised to be manufactured under CAR-MOA which are in a satisfactory condition, released on an AW Form 299 and marked in accordance with CAR-MOA.

2. Unserviceable components which shall be maintained in accordance with this section.

3. Unsalvageable components which are classified in accordance with 145.42(d).

4. Standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer's illustrated parts catalogue and/or the maintenance data.

5. Material both raw and consumable used in the course of maintenance when the organisation is satisfied that the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing conformity to specification statement plus both the manufacturing and supplier source.

(b) Prior to installation of a component, the organisation shall ensure that the particular component is eligible to be fitted when different modification and/or airworthiness directive standards may be applicable.

(c) The organisation may fabricate a restricted range of parts to be used in the course of undergoing work within its own facilities provided procedures are identified in the exposition.

(d) Components which have reached their certified life limit or contain a non-repairable defect shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended or a repair solution has been approved according to CAR 21.

(e) Reserved.

AMC 145.42(a)(1) Acceptance of components

1. An AW Form 1 or equivalent may be:

(a) a release document issued by an organisation under the terms of a bilateral agreement signed by the GCAA;

(b) an EASA Form 1 issued by a Part 145 organisation approved by an EASA Member State;

(c) an UK CAA Form 1 issued by a Part 145 organisation

(d) a JAA Form One issued prior to 28 November 2004 by a JAR 145 organisation approved by a JAA Full member state;

(e) a JAA Form One issued prior to 28 September 2005 by a production organisation approved by a competent authority in accordance with its national regulations;

(f) FAA Form 8130-3; or (see NOTE when the component is a PMA)

(g) Transport Canada Form 24-0078 or TCCA FORM ONE;

(h) For new parts, an authorised released certificate issued by Type Certificate holder under Authority of the state of Design; or

(i) Any other equivalent release certificate acceptable to the GCAA.

Note 1: FAA PMA parts are eligible for installation on UAE-registered aircraft if they meet any one of the below i), ii) criteria;

i) Parts designed and manufactured in the United States of America under the Parts Manufacturer Approval (PMA parts) system of the FAA can be accepted if the PMA part is released on a FAA Form 8130-3 and specified in the Type Certificate (TC) Holder's illustrated parts catalogue and/or the maintenance data or specified in a FAA Supplementary Type Certificate (STC) approved by the GCAA;

ii) Parts designed and manufactured in the United States of America under the Parts Manufacturer Approval (PMA parts) system of the FAA can be accepted if all the following conditions are met:

1. The PMA part is released on a FAA Form 8130-3;
2. The PMA part is a non-critical[1] component (as referred in the “Remarks” Block of the accompanying FAA Form 8130-3); and
3. The contracting CAMO has authorised the use of PMA as an alternate replacement for the component.

Note 2: Certain commercial parts are eligible for installation on UAE registered aircraft when that part is found to conform to the definition, criteria and conditions specified in AMC1 to CAR M.501(a)(1) -

Note 3:

i) The privilege of commercial part fitment can only be exercised by the UAE operators, by defining the system and procedures of acceptance of such parts in accordance with the requirements of the CAR M.501 Regulations, in the CAMO Exposition,

[1] “Critical Component” means a part identified as critical by the design approval holder during the product type validation process, or otherwise by the exporting authority. Typically, such components include parts for which a replacement time, inspection interval, or related procedure is specified in the Airworthiness Limitations section or

ii) Subsequently, the CAR-145 or CAR-M Subpart-F organisation shall include in the Exposition, defined procedures on the acceptance and fitment of the commercial parts for used on their aircraft, based on the terms and conditions agreed by the CAMO.

2. For acceptance of standard parts, raw material and consumable material, refer to AMC M.501(c) and AMC M.501 (d).

AMC 145.42(b) Acceptance of components

The AW Form 1 or equivalent identifies the status of an aircraft component. Block 12 "Remarks" of the AW form1 in some cases contain vital airworthiness related information which may need appropriate and necessary actions.

The receiving organisation should be satisfied that the component in question is in satisfactory condition and has been appropriately released to service. In addition, the organisation should ensure that the component meets the approved data/standard, such as the required design and modification standard[1]. This may be accomplished by reference to the manufacturer's parts catalogue or other approved data (i.e. Service Bulletin). Care should also be taken in ensuring compliance with applicable airworthiness directives, the status of any life-limited parts fitted to the aircraft component as well as Critical Design Configuration Control Limitations.

AMC 145.42(c) Acceptance of components

1. The GCAA acceptance for the fabrication of parts by the approved maintenance organisation should be formalized through the approval of a detailed procedure in the Maintenance Organisation Exposition. This AMC contains principles and conditions to be taken into account for the preparation of an acceptable procedure.

2. Fabrication, inspection assembly and test should be clearly within the technical and procedural capability of the organisation;

3. All necessary data to fabricate the part should be approved either by the GCAA or the type certificate TC holder or CAR 21 design organisation approval holder, or supplemental type certificate STC holder;

4. Items fabricated by an organisation approved under CAR-145 may only be used by that organisation in the course of overhaul, maintenance, modifications, or repair of aircraft or components undergoing work within its own facility. The permission to fabricate does not constitute approval for manufacture, or to supply externally and the parts do not qualify for certification on AW Form 1. This prohibition also applies to the bulk transfer of surplus inventory, in that locally fabricated parts are physically segregated and excluded from any delivery certification.

[1] certification maintenance requirements of the manufacturer's maintenance manual or Instructions for Continued Airworthiness.

5. Fabrication of parts, modification kits etc., for onward supply and/or sale may not be conducted by an organisation approved under CAR-145.

6. The data specified in paragraph 3 may include repair procedures involving the fabrication of parts. Where the data on such parts is sufficient to facilitate fabrication, the parts may be fabricated by an organisation approved under CAR-145. Care should be taken to ensure that the data include details of part numbering, dimensions, materials, processes, and any special manufacturing techniques, special raw material specification or/and incoming inspection requirement and that the approved organisation has the necessary capability. That capability should be defined by way of exposition content. Where special processes or inspection procedures are defined in the approved data which are not available at the organisation the organisation cannot fabricate the part unless the TC/STC holder gives an approved alternative.

7. Examples of fabrication under the scope of a CAR-145 approval can include but are not limited to the following:
    (a) Fabrication of bushes, sleeves and shims.
    (b) Fabrication of secondary structural elements and skin panels.
    (c) Fabrication of control cables.
    (d) Fabrication of flexible and rigid pipes.
    (e) Fabrication of electrical cable looms and assemblies.
    (f) Formed or machined sheet metal panels for repairs.

All the above fabricated parts, should be in accordance with data provided in overhaul or repair manuals, modification schemes and service bulletins, drawings or otherwise approved by the GCAA.

NOTE: It is not acceptable to fabricate any item to pattern unless an engineering drawing of the item is produced which includes any necessary fabrication processes and which is acceptable to the GCAA.

8. Where a TC-holder or an approved production organisation is prepared to make available complete data which is not referred to in aircraft manuals or service bulletins but provides manufacturing drawings for items specified in parts lists, the fabrication of these items is not considered to be within the scope of an approval unless agreed otherwise by the GCAA in accordance with a procedure specified in the exposition.

9. Inspection and Identification.

    Any locally fabricated part should be subjected to an inspection stage before, separately, and preferably independently from, any inspection of its installation. The inspection should establish full compliance with the relevant manufacturing data, and the part should be unambiguously identified as fit for use by stating conformity to the approved data.

Adequate records should be maintained of all such fabrication processes including, heat treatment and the final inspections. All parts, except those having not enough space, should carry a part number which clearly relates it to the manufacturing/inspection data. Additional to the part number the organisation's identity should be marked on the part for traceability purposes.

AMC 145.42(d) Acceptance of components

1. The following types of components should typically be classified as unsalvageable:

   (a) Components with non-repairable defects, whether visible or not to the naked eye;
   (b) Components that do not meet design specifications, and cannot be brought into conformity with such specifications;
   (c) Components subjected to unacceptable modification or rework that is irreversible;
   (d) Certified life-limited parts that have reached or exceeded their certified life limits, or have missing or incomplete records;
   (e) Components that cannot be returned to airworthy condition due to exposure to extreme forces, heat or adverse environment;
   (f) Components for which conformity with an applicable airworthiness directive cannot be accomplished;
   (g) Components for which maintenance records and/or traceability to the manufacturer cannot be retrieved.

2. It is common practice for possessors of aircraft components to dispose of unsalvageable components by selling, discarding, or transferring such items. In some instances, these items have reappeared for sale and in the active parts inventories of the aviation community. Misrepresentation of the status of components and the practice of making such items appear serviceable have resulted in the use of unsalvageable nonconforming Components. Therefore Organisations disposing of unsalvageable aircraft components should consider the possibility of such components later being misrepresented and sold as serviceable components. Caution should be exercised to ensure that unsalvageable components are disposed of in a manner that does not allow them to be returned to service.

GM 145.42(a)(1a) Acceptance of components

It refers to complete engine removed from UAE registered aircraft, restored and intended to be returned to service on to UAE registered aircraft.

CAR 145.45 Maintenance data

(a) The organisation shall hold and use applicable current maintenance data in the performance of maintenance, including modifications and repairs. ‘Applicable’ means relevant to any aircraft, component or process specified in the organisation's approval class rating schedule and in any associated capability list.

In the case of maintenance data provided by an operator or customer, the organisation shall hold such data when the work is in progress, with the exception of the need to comply with 145.55(c).

(b) For the purposes of this regulation, applicable maintenance data shall be any of the following:

1. Any applicable requirement, procedure, operational directive or information issued by the GCAA;
2. Any applicable airworthiness directive;
3. Instructions for continuing airworthiness, issued by type certificate holders, supplementary type certificate holders, any other organisation required to publish such data by CAR 21 and in the case of aircraft or components from third countries the airworthiness data mandated by the GCAA;
4. Any applicable standard, such as but not limited to, maintenance standard practices recognized by the GCAA as a good standard for maintenance;
5. Any applicable data issued in accordance with paragraph (d).

(c) The organisation shall establish procedures to ensure that if found, any inaccurate, incomplete or ambiguous procedure, practice, information or maintenance instruction contained in the maintenance data used by maintenance personnel is recorded and notified to the author of the maintenance data.

(d) The organisation may only modify maintenance instructions in accordance with a procedure specified in the maintenance organisation's exposition. With respect to those changes, the organisation shall demonstrate that they result in equivalent or improved maintenance standards and shall inform the type-certificate holder of such changes. Maintenance instructions for the purposes of this paragraph means instructions on how to carry out the particular maintenance task: they exclude the engineering design of repairs and modifications.

(e) The organisation shall provide a common work card or worksheet system to be used throughout relevant parts of the organisation. In addition, the organisation shall either transcribe accurately the maintenance data contained in paragraphs (b) and (d) onto such work cards or worksheets or make precise reference to the particular maintenance task or tasks contained in such maintenance data. Work cards and worksheets may be computer generated and held on an electronic database subject to both adequate safeguards against unauthorised alteration and a back-up electronic database which shall be updated within 24 hours of any entry made to the main electronic database. Complex maintenance tasks shall be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task.

Where the organisation provides a maintenance service to an aircraft operator who requires their work card or worksheet system to be used then such work card or worksheet system may be used.

In this case, the organisation shall establish a procedure to ensure correct completion of the aircraft operators' work cards or worksheets.

(f) The organisation shall ensure that all applicable maintenance data is readily available for use when required by maintenance personnel.

(g) The organisation shall establish a procedure to ensure that maintenance data it controls is kept up to date. In the case of operator/customer controlled and provided maintenance data, the organisation shall be able to show that it has written confirmation from the operator/customer that all such maintenance data is up to date or it has work orders specifying the amendment status of the maintenance data to be used or it can prove that it is on the operator/customer maintenance data amendment distribution list.

AMC 145.45(b) Maintenance data

1. Except as specified in sub-paragraph 5, each maintenance organisation approved under CAR-145 should hold and use the following minimum maintenance data relevant to the organisation‘s approval class rating. All maintenance related Implementing Rules and associated AMCs, approval specifications and Guidance Material, all applicable national maintenance requirements and notices which have not been superseded by any requirement, procedure or directive and all applicable airworthiness directives plus any airworthiness directive supplied by a contracted operator or customer as well as Critical Design Configuration Control Limitation.

2. In addition to sub-paragraph 1, an organisation with an approval class rating in category A - Aircraft, should hold and use the following maintenance data where published. The appropriate sections of the operator‘s aircraft maintenance programme, aircraft maintenance manual, repair manual, supplementary structural inspection document, corrosion control document, service bulletins, service letters, service instructions, modification leaflets, NDT manual, parts catalogue, type certificate data sheet and any other specific document issued by the type certificate or supplementary type certificate holder as maintenance data.

3. In addition to sub-paragraph 1, an organisation with an approval class rating in category B - Engines/APUs, should hold and use the following maintenance data where published. The appropriate sections of the engine/APU maintenance and repair manual, service bulletins, service letters, modification leaflets, non-destructive testing NDT manual, parts catalogue, type certificate data sheet and any other specific document issued by the type certificate holder as maintenance data.

4. In addition to sub-paragraph 1, an organisation with an approval class rating in category C – Components other than complete engines/APUs, should hold and use the following maintenance data where published. The appropriate sections of the vendor maintenance and repair manual, service bulletins and service letters plus any document issued by the type certificate holder as maintenance data on whose product the component may be fitted when applicable.

5. Appropriate sections of the sub-paragraphs 2 to 4 additional maintenance data means in relation to the maintenance work scope at each particular maintenance facility. For example, a base maintenance facility should have almost complete set(s) of the maintenance data whereas a line maintenance facility may need only the maintenance manual and the parts catalogue.

6. An organisation only approved in class rating category D – Specialized services, should hold and use all applicable specialized service(s) process specifications.

AMC 145.45(c) Maintenance data

1. The referenced procedure should ensure that when maintenance personnel discover inaccurate, incomplete or ambiguous information in the maintenance data they should record the details. The procedure should then ensure that the CAR-145 approved maintenance organisation notifies the problem to the author of the maintenance data in a timely manner. A record of such communications to the author of the maintenance data should be retained by the CAR-145 approved organisation until such time as the type certificate holder has clarified the issue by e.g. amending the maintenance data.

2. The referenced procedure should be specified in the maintenance organisation exposition.

AMC 145.45(d) Maintenance data

The referenced procedure should address the need for a practical demonstration by the mechanic to the quality personnel of the proposed modified maintenance instruction. When satisfied the quality personnel should approve the modified maintenance instruction and ensure that the type certificate or supplementary type certificate holder is informed of the modified maintenance instruction. The procedure should include a paper/electronic traceability of the complete process from start to finish and ensure that the relevant maintenance instruction clearly identifies the modification. Modified maintenance instructions should only be used in the following circumstances:

(a) Where the type certificate/supplementary type certificate holders original intent can be carried out in a more practical or more efficient manner.

(b) Where the type certificate/supplementary type certificate holders original intent cannot be achieved by following the maintenance instructions. For example, where a component cannot be replaced following the original maintenance instructions.

(c) For the use of alternative tools/equipment.

Important Note: Critical Design Configuration Control Limitations (CDCCL) are airworthiness limitations. Any modification of the maintenance instructions linked to CDCCL constitutes an aircraft modification that should be approved in accordance with CAR 21.

AMC 145.45(e) Maintenance data

1. The maintenance organisation should:

   - transcribe accurately the maintenance data onto such work cards or worksheets, or
   - make precise reference to the particular maintenance task(s) contained in such maintenance data, which already identifies the task as a CDCCL where applicable.

2. Relevant parts of the organisation means with regard to aircraft base maintenance, aircraft line workshops. Therefore, engine workshops for example should have a common system throughout such engine workshops that may be different to that in the aircraft base maintenance.

3. The work-cards should differentiate and specify, when relevant, disassembly, accomplishment of task, reassembly and testing. In the case of a lengthy maintenance task involving a succession of personnel to complete such a task, it may be necessary to use supplementary work-cards or worksheets to indicate what was actually accomplished by each individual person.

AMC 145.45(f) Maintenance data

1. Data being made available to personnel maintaining aircraft means that the data should be available in close proximity to the aircraft being maintained for supervisors, mechanics and certifying staff to study.

2. Where computer systems are used, the number of computer terminals should be sufficient in relation to the size of the work programme to enable easy access, unless the computer system can produce paper copies. Where microfilm or microfiche readers/printers are used, a similar requirement is applicable.

AMC 145.45(g) Maintenance data

1. To keep data up to date a procedure should be set up to monitor the amendment status of all data and maintain a check that all amendments are being received by being a subscriber to any document amendment scheme. Special attention should be given to TC related data such as certification life limited parts, airworthiness limitation and Airworthiness Limitation Items (ALI), etc.

CAR 145.47 Production planning

(a) The organisation shall have a system appropriate to the amount and complexity of work to plan the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities in order to ensure the safe completion of the maintenance work.

(b) The planning of maintenance tasks, and the organising of shifts, shall take into account human performance limitations.

(c) When it is required to hand over the continuation or completion of maintenance tasks for reasons of a shift or personnel changeover, relevant information shall be adequately communicated between outgoing and incoming personnel.

AMC 145.47(a) Production planning

1. Depending on the amount and complexity of work generally performed by the maintenance organisation, the planning system may range from a very simple procedure to a complex organisational set-up including a dedicated planning function in support of the production function.

2. For the purpose of CAR-145, the production planning function includes two complementary elements:

   - scheduling the maintenance work ahead, to ensure that it will not adversely interfere with other work as regards the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities.

   - during maintenance work, organising maintenance teams and shifts and provide all necessary support to ensure the completion of maintenance without undue time pressure.

3. When establishing the production planning procedure, consideration should be given to the following:

   - logistics,
   - inventory control,
   - square meters of accommodation,
   - man-hours estimation,
   - man-hours availability,
   - preparation of work,
   - hangar availability,
   - environmental conditions (access, lighting standards and cleanliness),
   - co-ordination with internal and external suppliers, etc.
   - scheduling critical maintenance tasks during periods when staff are likely to be most alert.

AMC 145.47(b) Production planning

Limitations of human performance, in the context of planning safety related tasks, refers to the upper and lower limits, and variations, of certain aspects of human performance (Circadian rhythm/24 hours body cycle) which personnel should be aware of when planning work and shifts (Refer to Safety Alert 2017-04).

AMC 145.47(c) Production planning

The primary objective of the changeover/handover information is to ensure effective communication at the point of handing over the continuation or completion of maintenance actions. Effective task and shift handover depends on three basic elements:

- The outgoing person's ability to understand and communicate the important elements of the job or task being passed over to the incoming person.
- The incoming person's ability to understand and assimilate the information being provided by the outgoing person.
- A formalized process for exchanging information between outgoing and incoming persons and a planned shift overlap and a place for such exchanges to take place.

CAR 145.48 Performance of maintenance

The organisation shall establish, implement and maintain procedures to ensure that:

(a) after completion of maintenance a general verification is carried out to ensure that the aircraft or component is clear of all tools, equipment and any extraneous parts or material, and that all access panels removed have been refitted;

(b) an error capturing method is implemented after the performance of any critical maintenance task;

(c) the risk of multiple errors during maintenance and the risk of errors being repeated in identical maintenance tasks are minimised; and,

(d) damage is assessed and modifications and repairs are carried out using data specified in point CAR M.304.

AMC1 145.48(b) Performance of maintenance

The procedure should identify the error-capturing methods, the critical maintenance tasks, the training and qualification of staff applying error-capturing methods, and how the organisation ensures that its staff is familiar with critical maintenance tasks and error-capturing methods.

AMC2 145.48(b) Performance of maintenance

CRITICAL MAINTENANCE TASKS

(a) The procedure should ensure that the following maintenance tasks are reviewed to assess their impact on flight safety:

(1) tasks that may affect the control of the aircraft flight path and attitude, such as installation, rigging and adjustments of flight controls;

(2) tasks that may affect the aircraft stability control systems (autopilot, fuel transfer);

(3) tasks that may affect the propulsive force of the aircraft, including installation of aircraft engines, propellers and rotors; and

(4) overhaul, calibration or rigging of engines, propellers, transmissions and gearboxes.

(b) The procedure should describe which data sources are used to identify critical maintenance tasks. Several data sources may be used, such as:

(1) information from the design approval holder;

(2) accident reports;

(3) investigation and follow-up of incidents;

(4) occurrence reporting;

(5) flight data analysis;

(6) results of audits;

(7) normal operations monitoring schemes;

(8) feedback from training; and

(9) error-capturing methods.

AMC3 145.48(b) Performance of maintenance

ERROR-CAPTURING METHODS

(a) Error-capturing methods are those actions defined by the organisation to detect maintenance errors made when performing maintenance.

(b) The organisation should ensure that the error-capturing methods are adequate for the work and the disturbance of the aircraft system. A combination of several actions (visual inspection, operational check, functional test, rigging check) may be necessary in some cases.

AMC4 145.48(b) Performance of maintenance

INDEPENDENT INSPECTION

Independent inspection is one possible error-capturing method.

(a) An independent inspection is an inspection performed by an 'independent qualified person' of a task carried out by an 'authorised person', taking into account that:

(1) the 'authorised person' is the person who performs the task or supervises the task and they assume the full responsibility for the completion of the task in accordance with the applicable maintenance data;

(2) the 'independent qualified person' is the person who performs the independent inspection and attests the satisfactory completion of the task and that no deficiencies have been found.

The 'independent qualified person' does not issue a certificate of release to service, therefore they are not required to hold certification privileges;

(3) the 'authorised person' issues the certificate of release to service or signs off the completion of the task after the independent inspection has been carried out satisfactorily;

(4) the work card system used by the organisation should record the identification of both persons and the details of the independent inspection as necessary before the certificate of release to service or sign-off for the completion of the task is issued.

(b) Qualifications of persons performing independent inspections. The organisation should have procedures to demonstrate that the 'independent qualified person' has been trained and has gained experience in the specific inspection to be performed. The organisation could consider making use of, for example:

(1) staff holding a certifying staff or support staff or sign-off authorisation or equivalent necessary to release or sign off the critical maintenance task;

(2) staff holding a certifying staff or support staff or sign-off authorisation or equivalent necessary to release or sign off similar task in a product of similar category and having received specific practical training in the task to be inspected; or

(3) a commander holding a limited certification authorisation in accordance with 145.30(j)(4) and having received adequate practical training and having enough experience in the specific task to be inspected and on how to perform independent inspection.

(c) How to perform an independent inspection. An independent inspection should ensure correct assembly, locking and sense of operation. When inspecting control systems that have undergone maintenance, the independent qualified person should consider the following points independently:

(1) all those parts of the system that have actually been disconnected or disturbed should be inspected for correct assembly and locking;

(2) the system as a whole should be inspected for full and free movement over the complete range;

(3) cables should be tensioned correctly with adequate clearance at secondary stops;

(4) the operation of the control system as a whole should be observed to ensure that the controls are operating in the correct sense;

(5) if different control systems are interconnected so that they affect each other, all the interactions should be checked through the full range of the applicable controls; and

(6) software that is part of the critical maintenance task should be checked, for example: version, compatibility with aircraft configuration.

(d) What to do in unforeseen cases when only one person is available

REINSPECTION:

(1) Reinspection is an error-capturing method subject to the same conditions as an independent inspection is, except that the 'authorised person' performing the maintenance task is also acting as 'independent qualified person' and performs the inspection.

(2) Reinspection, as an error-capturing method, should only be performed in unforeseen circumstances when only one person is available to carry out the task and perform the independent inspection. The circumstances cannot be considered unforeseen if the person or organisation has not assigned a suitable 'independent qualified person' to that particular line station or shift.

(3) The certificate of release to service is issued after the task has been performed by the 'authorised person' and the reinspection has been carried out satisfactorily. The work card system used by the organisation should record the identification and the details of the reinspection before the certificate of release to service for the task is issued.

AMC 145.48(c) Performance of Maintenance

The procedures should be aimed at:

(a) minimising multiple errors and preventing omissions. Therefore, the procedures should specify:

(1) that every maintenance task is signed off only after completion;

(2) how the grouping of tasks for the purpose of sign-off allows critical steps to be clearly identified; and

(3) that work performed by personnel under supervision (i.e. temporary staff, trainees) is checked and signed off by an authorised person;

(b) minimising the possibility of an error being repeated in identical tasks and, therefore, compromising more than one system or function. Thus, the procedures should ensure that no person is required to perform a maintenance task involving removal/installation or assembly/disassembly of several components of the same type fitted to more than one system, a failure of which could have an impact on safety, on the same aircraft or component during a particular maintenance check. However, in unforeseen circumstances when only one person is available, the organisation may make use of reinspection as described in point (d) of AMC4 145.48(b).

GM 145.48(c) Performance of maintenance

To minimise the risk of multiple errors or errors being repeated, the organisation may implement:

- procedures to plan the performance of maintenance by different persons of the same task in different systems;

- Independent inspection or re-inspection procedures.

GM 145.48(d) Performance of maintenance

Critical design configuration control limitations (CDCCL)

The organisation should ensure that when performing maintenance the CDCCL are not compromised. The organisation should pay particular attention to possible adverse effects of any change to the wiring of the aircraft, even of a change not specifically associated with the fuel tank system. For example, it should be common practice to identify segregation of fuel gauging system wiring as a CDCCL. The organisation can prevent adverse effects associated with changes to the wiring by standardising maintenance practices through training, and not through periodic inspections. Training should be provided to avoid indiscriminate routing and splicing of wire and to provide comprehensive knowledge of critical design features of fuel tank systems that would be controlled by a CDCCL. Guidance on the training of maintenance organisation personnel is provided in Appendix VIII to CAR 145.

GM 145.48 Performance of maintenance

AUTHORISED PERSON

An 'authorised person' is a person formally authorised by the maintenance organisation to perform or supervise a maintenance task. An 'authorised person' is not necessarily 'certifying staff'.

SIGN-OFF

A 'sign-off' is a statement issued by the 'authorised person' which indicates that the task or group of tasks has been correctly performed. A 'sign-off' relates to one step in the maintenance process and is, therefore, different to a certificate of release to service.

CAR 145.50 Certification of maintenance

(a) A certificate of release to service shall be issued by appropriately authorised certifying staff on behalf of the organisation when it has been verified that all maintenance ordered has been properly carried out by the organisation in accordance with the procedures specified in 145.70, taking into account the availability and use of the maintenance data specified in 145.45 and that there are no non-compliances which are known to endanger the flight safety.

(b) A certificate of release to service shall be issued before flight at the completion of any maintenance.

(c) New defects or incomplete maintenance work orders identified during the above maintenance shall be brought to the attention of the aircraft operator for the specific purpose of obtaining agreement to rectify such defects or completing the missing elements of the maintenance work order. In the

case where the aircraft operator declines to have such maintenance carried out under this paragraph, paragraph (e) is applicable.

(d) A certificate of release to service shall be issued at the completion of any maintenance on a component whilst off the aircraft. The authorised release certificate — AW Form 1 referred to in Appendix II to CAR-M constitutes the component certificate of release to service. When an organisation maintains a component for its own use, an AW Form 1 may not be necessary depending upon the organisation's internal release procedures defined in the exposition.

(e) By derogation to paragraph (a), when the organisation is unable to complete all maintenance ordered, it may issue a certificate of release to service within the approved aircraft limitations. The organisation shall enter such fact in the aircraft certificate of release to service before the issue of such certificate.

(f) By derogation to paragraph (a) and 145.42, when an aircraft is grounded at a location other than the main line station or main maintenance base due to the non- availability of a component with the appropriate release certificate, it is permissible to temporarily fit a component without the appropriate release certificate for a maximum of 30 flight hours or until the aircraft first returns to the main line station or main maintenance base, whichever is the sooner, subject to the aircraft operator agreement and said component having a suitable release certificate but otherwise in compliance with all applicable maintenance and operational requirements. Such components shall be removed by the above prescribed time limit unless an appropriate release certificate has been obtained in the meantime under paragraph (a) and 145.42.

AMC 145.50(a) Certification of maintenance

'Endangers the flight safety' means any instances where safe operation could not be assured or which could lead to an unsafe condition. It typically includes, but is not limited to, significant cracking, deformation, corrosion or failure of primary structure, any evidence of burning, electrical arcing, significant hydraulic fluid or fuel leakage and any emergency system or total system failure. An airworthiness directive overdue for compliance is also considered a hazard to flight safety.

AMC 145.50(b) Certification of maintenance

1. The certificate of release to service should contain the following statement:

'Certifies that the work specified except as otherwise specified was carried out in accordance with CAR-145 and in respect to that work the aircraft/aircraft component is considered ready for release to service'.

Reference should also be made to the GCAA Approved Maintenance Organisation Certificate number.

2. It is acceptable to use an alternate abbreviated certificate of release to service consisting of the following statement 'CAR-145 release to service' instead of the full certification statement specified in paragraph 1. When the alternate abbreviated certificate of release to service is used, the

introductory section of the technical log should include an example of the full certification statement from paragraph 1.

3. The certificate of release to service should relate to the task specified in the (S) TC holder's or operator's instructions or the aircraft maintenance program which itself may cross-refer to maintenance data.
4. The date such maintenance was carried out should include when the maintenance took place relative to any life or overhaul limitation in terms of date/flying hours cycles/landings etc., as appropriate.
5. When extensive maintenance has been carried out, it is acceptable for the certificate of release to service to summarize the maintenance as long as there is a unique cross reference to the work package containing full details of maintenance carried out. Dimensional information should be retained in the work-pack record.

AMC1 145.50(d) Certification of maintenance

The purpose of the certificate (AW Form 1) is to release assemblies/items/components/parts (hereafter referred to as item(s) after maintenance and to release maintenance work carried out on such items under the approval of the GCAA and to allow items removed from one aircraft/aircraft component to be fitted to another aircraft/aircraft component.

The certificate is to be used for export/import purposes, as well as for domestic purposes, and serves as an official certificate for items from the manufacturer/maintenance organisation to users.

It can only be issued by organisations approved the GCAA and within the scope of the approval.

The certificate may be used as a rotable tag by utilizing the available space on the reverse side of the certificate for any additional information and dispatching the item with two copies of the certificate so that one copy may be eventually returned with the item to the maintenance organisation. The alternative solution is to use existing rotable tags and also supply a copy of the certificate.

A certificate should not be issued for any item when it is known that the item is unserviceable except in the case of an item undergoing a series of maintenance processes at several maintenance organisations approved under CAR-145 and the item needs a certificate for the previous maintenance process carried out for the next maintenance organisation approved under CAR-145 to accept the item for subsequent maintenance processes. In such a case, a clear statement of limitation should be endorsed in Block 12.

AMC2 145.50(d) Certification of maintenance

1. A component which has been maintained off the aircraft needs the issue of a certificate of release to service for such maintenance and another certificate of release to service in regard to being installed properly on the aircraft when such action occurs. This requirement also applies to engine completely restored.

When an organisation maintains a component for use by the same organisation, an AW Form 1 may not be necessary depending upon the organisation's internal release procedures defined in the maintenance organisation exposition.

2. In the case of the issue of AW Form 1 for components in storage before CAR-145 and CAR-21 became effective and not released on an AW Form 1 or equivalent in accordance with 145.42(a) or removed serviceable from a serviceable aircraft or an aircraft which has been withdrawn from service the following applies:

2.1 An AW Form 1 may be issued for an aircraft component which has been:

2.1.1 Maintained before CAR-145 became effective or manufactured before CAR-21 became effective.

2.1.2 Used on an aircraft and removed in a serviceable condition. Examples include leased and loaned aircraft component.

2.1.3 Removed from aircraft which have been withdrawn from service, or from aircraft which have been involved in abnormal occurrences such as accidents, incidents, heavy landings or lightning strikes.

2.1.4 Maintained by an unapproved organisation.

2.2 An appropriately rated maintenance organisation approved under CAR-145 may issue an AW Form 1 as detailed in this AMC subparagraph 2.5 to 2.9, as appropriate, in accordance with procedures detailed in the exposition as approved by the GCAA. The appropriately rated organisation is responsible for ensuring that all reasonable measures have been taken to ensure that only approved and serviceable aircraft components issued an AW Form 1 under this paragraph.

2.3 For the purposes of this AMC only, appropriately rated means an organisation with an approval class rating for the type of component or for the product in which it may be installed.

2.4 An AW Form 1 issued in accordance with this paragraph 2 should be issued by signing in block 14b and stating 'Inspected' in block 11. In addition, block 12 should specify:

2.4.1 When the last maintenance was carried out and by whom.

2.4.2 If the component is unused, when the component was manufactured and by whom with a cross-reference to any original documentation which should be included with the Form.

2.4.3 A list of all airworthiness directives, repairs and modifications known to have been incorporated. If no airworthiness directives or repairs or modifications are known to be incorporated, then this should be so stated.

2.4.4 Detail of life used for service life-limited parts being any combination of fatigue, overhaul or storage life.

2.4.5 For any aircraft component having its own maintenance history record, reference to the particular maintenance history record as long as the record contains the details that would otherwise be required in block 12. The maintenance history record and acceptance test report or statement, if applicable, should be attached to the AW Form1.

2.5 New/unused aircraft components

2.5.1 Any unused aircraft component in storage without an AW Form 1 up to the effective date(s) for CAR 21 that was manufactured by an organisation acceptable to the GCAA at that time may be issued with an AW Form 1 by an appropriately rated maintenance organisation approved under CAR-145. The AW Form 1 should be issued in accordance with the following subparagraphs which should be included in a procedure within the maintenance organisation manual.

NOTE: It should be understood that the release of a stored but unused aircraft component in accordance with this paragraph represents a maintenance release under CAR-145 and not a production release under CAR-21. It is not intended to bypass the production release procedure agreed by the GCAA for parts and subassemblies intended for fitment on the manufacturers' own production line.

(a) An acceptance test report or statement should be available for all used and unused aircraft components that are subjected to acceptance testing after manufacturing or maintenance as appropriate.

(b) The aircraft component should be inspected for compliance with the manufacturer's instructions and limitations for storage and condition including any requirement for limited storage life, inhibitors, controlled climate and special storage containers. In addition or in the absence of specific storage instructions the aircraft component should be inspected for damage, corrosion and leakage to ensure good condition.

(c) The storage life used of any storage life-limited parts should be established.

2.5.2 If it is not possible to establish satisfactory compliance with all applicable conditions in subparagraph 2.5.1(a) to (c) inclusive, the aircraft specified component should be disassembled by an appropriately rated organisation and subjected to a check for incorporated airworthiness directives, repairs and modifications and inspected/tested in accordance with the maintenance data to establish satisfactory condition and, if relevant, all seals, lubricant and life-limited parts should be replaced. Upon satisfactory completion after reassembly, an AW Form 1 may be issued stating what was carried out and the reference of the maintenance data included.

2.6 Used aircraft components removed from a serviceable aircraft

2.6.1 Serviceable aircraft components removed from a UAE registered aircraft may be issued with an AW Form 1 by an appropriately rated organisation subject to compliance with this subparagraph.

(a) The organisation should ensure that the component was removed from the aircraft by an appropriately qualified person.

(b) The aircraft component may only be deemed serviceable if the last flight operation with the component fitted revealed no faults on that component/ related system.

(c) The aircraft component should be inspected for satisfactory condition including in particular damage, corrosion or leakage and compliance with any additional maintenance data.

(d) The aircraft record should be researched for any unusual events that could affect the serviceability of the aircraft component such as involvement in accidents, incidents, heavy landings or lightning strikes. Under no circumstances may an AW Form 1 be issued in accordance with this paragraph 2.6 if it is suspected that the aircraft component has been subjected to extremes of stress, temperatures or immersion which could affect its operation.

(e) A maintenance history record should be available for all used serialized aircraft components.

(f) Compliance with known modifications and repairs should be established.

(g) The flight hours/cycles/landings as applicable of any service life-limited parts including time since overhaul should be established.

(h) Compliance with known applicable airworthiness directives should be established.

(i) Subject to satisfactory compliance with this subparagraph 2.6.1, an AW Form 1 may be issued and should contain the information as specified in paragraph 2.4 including the aircraft from which the aircraft component was removed.

2.6.2 Serviceable aircraft components removed from a foreign registered aircraft may only be issued with an AW Form 1 if the components are leased or loaned from the maintenance organisation approved under CAR-145 who retains control of the airworthiness status of the components. An AW Form 1 may be issued and should contain the information as specified in paragraph 2.4 including the aircraft from which the aircraft components was removed.

2.7 Used aircraft components removed from an aircraft withdrawn from service. Serviceable aircraft components removed from a UAE registered aircraft withdrawn from service may be issued with an AW Form 1 by a maintenance organisation approved under CAR-145 subject to compliance with this subparagraph.

(a) Aircraft withdrawn from service are sometimes dismantled for spares. This is considered to be a maintenance activity and should be accomplished under the control of an organisation approved under CAR-145, employing procedures approved by the GCAA.To be eligible for installation, components removed from such aircraft may be issued with an AW Form 1 by an appropriately rated organisation following a satisfactory assessment.

(b) As a minimum, the assessment will need to satisfy the standards set out in paragraphs 2.5 and 2.6 as appropriate. This should, where known, include the possible need for the alignment of scheduled maintenance that may be necessary to comply with the maintenance programme applicable to the aircraft on which the component is to be installed.

(c) Irrespective of whether the aircraft holds a certificate of airworthiness or not, the organisation responsible for certifying any removed component should ensure that the manner in which the components were removed and stored are compatible with the standards required by CAR-145.

(d) A structured plan should be formulated to control the aircraft disassembly process. The disassembly is to be carried out by an appropriately rated organisation under the supervision of certifying staff who will ensure that

the aircraft components are removed and documented in a structured manner in accordance with the appropriate maintenance data and disassembly plan.

(e) All recorded aircraft defects should be reviewed and the possible effects these may have on both normal and standby functions of removed components are to be considered.

(f) Dedicated control documentation is to be used as detailed by the disassembly plan, to facilitate the recording of all maintenance actions and component removals performed during the disassembly process. Components found to be unserviceable are to be identified as such and quarantined pending a decision on the actions to be taken. Records of the maintenance accomplished to establish serviceability are to form part of the component maintenance history.

(g) Suitable CAR-145 facilities for the removal and storage of removed components are to be used which include suitable environmental conditions, lighting, access equipment, aircraft tooling and storage facilities for the work to be undertaken. While it may be acceptable for components to be removed, given local environmental conditions, without the benefit of an enclosed facility, subsequent disassembly (if required) and storage of the components should be in accordance with the manufacturer‘s recommendations.

2.8 Used aircraft components maintained by organisations not approved in accordance with CAR-145. For used components maintained by a maintenance organisation not approved under CAR-145, due care should be taken before acceptance of such components. In such cases an appropriately rated maintenance organisation approved under CAR-145 should establish satisfactory conditions by:

(a) dismantling the component for sufficient inspection in accordance with the appropriate maintenance data;

(b) replacing all service life-limit components when no satisfactory evidence of life used is available and/or the components are in an unsatisfactory condition;

(c) reassembling and testing as necessary the component;

(d) completing all certification requirements as specified in 145.50.

2.9 Used aircraft components removed from an aircraft involved in an accident or incident. Such components should only be issued with an AW Form 1 when processed in accordance with paragraph 2.7 and a specific work order including all additional necessary tests and inspections deemed necessary by the accident or incident. Such a work order may require input from the TC holder or original manufacturer as appropriate. This work order should be referenced in block 12.

AMC 145.50(e) Certification of maintenance

1. Being unable to establish full compliance with sub-paragraph 145.50(a) means that the maintenance required by the aircraft operator could not be completed due either to running out of available aircraft maintenance downtime for the scheduled check or by virtue of the condition of the aircraft requiring additional maintenance downtime.

2. The aircraft operator is responsible for ensuring that all required maintenance has been carried out before flight and therefore 145.50(e) requires such operator to be informed in the case where full compliance with 145.50(a) cannot be achieved within the operators limitations. If the operator agrees to the deferment of full compliance, then the certificate of release to service may be issued subject to details of the deferment, including the operator's authority being endorsed on the certificate.

   NOTE: Whether or not the aircraft operator does have the authority to defer maintenance is an issue between the aircraft operator and its Authority. In case of doubt concerning such a decision of the operator, the approved maintenance organisation should inform the Operator Authority of such doubt, before issue of the certificate of release to service. This will allow the Operator Authority to investigate the matter as appropriate.

3. The procedure should draw attention to the fact that 145.50 (a) does not normally permit the issue of a certificate of release to service in the case of non-compliance and should state what action the mechanic, supervisor and certifying staff should take to bring the matter to the attention of the relevant department or person responsible for technical co-ordination with the aircraft operator so that the issue may be discussed and resolved with the aircraft operator. In addition, the appropriate person(s) as specified in 145.30(b) should be kept informed in writing of such possible non-compliance situations and this should be included in the procedure.

AMC 145.50(f) Certification of maintenance

1. Suitable release certificate means a certificate which clearly states that the aircraft component is serviceable; that clearly specifies the organisation releasing said component together with details of the authority under whose approval the organisation works including the approval or authorisation number.
2. Compliance with all other CAR-145 and operator requirements means making an appropriate entry in the aircraft technical log, checking for compliance with type design standards, modifications,

repairs, airworthiness directives, life limitations and condition of the aircraft component plus information on where, when and why the aircraft was grounded.

CAR 145.55 Maintenance records

(a) The organisation shall record all details of maintenance work carried out. As a minimum, the organisation shall retain records necessary to prove that all requirements have been met for issue of the certificate of release to service, including subcontractor's release documents.

(b) The organisation shall provide a copy of each certificate of release to service to the aircraft operator, together with a copy of any specific approved repair/modification data used for repairs/modifications carried out.

(c) The organisation shall retain a copy of all detailed maintenance records and any associated maintenance data for three years from the date the aircraft or component to which the work relates was released from the organisation.

1. Records under this paragraph shall be stored in a manner that ensures protection from damage, alteration, and theft.
2. Computer backup discs, tapes etc., shall be stored in a different location from that containing the working discs, tapes etc., in an environment that ensures they remain in good condition.
3. Where an organisation approved under this CAR terminates its operation, all retained maintenance records covering the last three years shall be distributed to the last owner or customer of the respective aircraft or component or shall be stored as specified by the GCAA.

AMC 145.55(c) Maintenance records

Associated maintenance data is specific information such as repair and modification data. This does not necessarily require the retention of all Aircraft Maintenance Manual, Component Maintenance Manual, IPC etc. issued by the TC holder or STC holder. Maintenance records should refer to the revision status of the data used.

GM 145.55(a) Maintenance records

1. Properly executed and retained records provide owners, operators and maintenance personnel with information essential in controlling unscheduled and scheduled maintenance, and troubleshooting to eliminate the need for re-inspection and rework to establish airworthiness.

The prime objective is to have secure and easily retrievable records with comprehensive and legible contents. The aircraft record should contain basic details of all serialized aircraft components and all other significant aircraft components installed, to ensure traceability to such installed aircraft component documentation and associated maintenance data as specified in 145.45.

2. Some gas turbine engines are assembled from modules and a true total time in service for a total engine is not kept. When owners and operators wish to take advantage of the modular design, then total time in service and maintenance records for each module is to be maintained. The maintenance records as specified are to be kept with the module and should show compliance with any mandatory requirements pertaining to that module.

3. Reconstruction of lost or destroyed records can be done by reference to other records which reflect the time in service, research of records maintained by repair facilities and reference to records maintained by individual mechanics etc. When these things have been done and the record is still incomplete, the owner/operator may make a statement in the new record describing the loss and establishing the time in service based on the research and the best estimate of time in service. The reconstructed records should be submitted to the GCAA for acceptance.

NOTE: Additional maintenance may be required.

4. The maintenance record can be either a paper or computer system or any combination of both.

5. Paper systems should use robust material which can withstand normal handling and filing. The record should remain legible throughout the required retention period.

6. The Computer systems may be used to control maintenance and/or record details of maintenance work carried out. Computer systems used for maintenance should have at least one backup system which should be updated at least within 24 hours of any maintenance. Each terminal is required to contain programme safeguards against the ability of unauthorised personnel to alter the database.

CAR 145.60 Occurrence reporting

(a) The organisation shall notify and report to the GCAA, the state of registry and the organisation responsible for the design of the aircraft or component any condition of the aircraft or component identified by the organisation that has resulted or may result in an unsafe condition that hazards seriously the flight safety.

(b) The organisation shall establish an internal occurrence reporting system as detailed in the exposition to enable the collection and evaluation of such reports, including the assessment and extraction of those occurrences to be reported under paragraph (a). This procedure shall identify adverse trends, corrective actions taken or to be taken by the organisation to address deficiencies an include evaluation of all known relevant information relating to such occurrences and a method to circulate the information as necessary.

(c) The organisation shall make such reports in a form and manner established by the GCAA and ensures that they contain all pertinent information about the condition and evaluation results known to the

person or organisation and details of the investigation and actions it intends to take to prevent similar occurrences in the future.

(d) Where the organisation is contracted by a commercial operator to carry out maintenance, the organisation shall also report to the operator any such condition affecting the operator's aircraft or component.

(e) Notification and Reports shall be made to the GCAA within the established reporting timeframes.

AMC 145.60(a) Occurrence reporting

Definitions and examples of reportable occurrences are provided in AMC-22.

AMC 145.60(e) Occurrence reporting

Established notification and reporting timeframes are provided in AMC-22.

AMC 145.60(b) Occurrence reporting

1. The aim of occurrence reporting is to identify the factors contributing to incidents, and to make the system resistant to similar errors.

2. An occurrence reporting system should enable and encourage free and frank reporting of any (potentially) safety related occurrence. This will be facilitated by the establishment of a just culture. An organisation should ensure that personnel are not inappropriately punished for reporting or cooperating with occurrence investigations.

3. The internal reporting process should be closed-loop, ensuring that actions are taken internally to address safety hazards.

4. Feedback to reportees, both on an individual and more general basis, is important to ensure their continued support for the scheme.

GM 145.60(a) Occurrence reporting

The organisation responsible for the design is normally the TC holder of the aircraft, engine or propeller and/or if known the STC holder.

GM 145.60(c) Occurrence reporting

Each report should contain at least the following information:

i. Organisation name and approval reference.
ii. Information necessary to identify the subject aircraft and/or component.
iii. Date and time relative to any life or overhaul limitation in term of flying hours/cycles/landings etc. as appropriate.
iv. Details of the condition as required by 145.60(b).

v. Any other relevant information found during the evaluation or rectification of the condition.

CAR 145.65 Safety and quality policy, maintenance procedures and quality system

(a) The organisation shall establish a safety and quality policy for the organisation to be included in the exposition under 145.70.

(b) The organisation shall establish procedures agreed by the GCAA taking into account human factors and human performance to ensure good maintenance practices and compliance with the applicable requirements established in 145.25 to 145.95 including requirements of CAR-M mentioned in this CAR.

The procedures under this point shall:

1. ensure that a clear work order or contract has been agreed between the organisation and the organisation requesting maintenance to clearly establish the maintenance to be carried out so that aircraft and components may be released to service in accordance with 145.50; and,
2. cover all aspects of carrying out the maintenance including the provision and control of specialized services and lay down the standards to which the organisation intends to work.

(c) The organisation shall establish a quality system that includes the following:

1. Independent audits in order to monitor compliance with required aircraft/aircraft component standards and adequacy of the procedures to ensure that such procedures invoke good maintenance practices and airworthy aircraft/aircraft components. In the smallest organisations the independent audit part of the quality system may be contracted when authorised by the GCAA to another organisation approved under this CAR or a person with appropriate technical knowledge and proven satisfactory audit experience; and
2. A quality feedback reporting system to the person or group of persons specified in 145.30(b) and ultimately to the accountable manager that ensures proper and timely corrective action is taken in response to reports resulting from the independent audits established to meet paragraph (1).

(d) The organisation shall establish a safety management system in accordance with CAR-X, if applicable.

AMC 145.65(a) Safety and quality policy, maintenance procedures and quality system

The safety and quality policy should as a minimum include a statement committing the organisation to:

- Recognize safety as a prime consideration at all times
- Apply Human factors principles
- Encourage personnel to report maintenance related errors/incidents

- Recognize that compliance with procedures, quality standards, safety standards and regulations is the duty of all personnel
- Recognize the need for all personnel to cooperate with the quality auditors.

AMC 145.65(b) Safety and quality policy, maintenance procedures and quality system

1. Maintenance procedures should be held current such that they reflect best practice within the organisation. It is the responsibility of all organisation‘s employees to report any differences via their organisation‘s internal occurrence reporting mechanisms.
2. All procedures, and changes to those procedures, should be verified and validated before use where practicable.
3. All technical procedures should be designed and presented in accordance with good human factors principles.

AMC 145.65(b)(2) Safety and quality policy, maintenance procedures and quality system

Specialized services include any specialized activity, such as, but not limited to non-destructive testing requiring particular skills and/or qualification. 145.30(f) covers the qualification of personnel but, in addition, there is a need to establish maintenance procedures that cover the control of any specialized process.

AMC 145.65(c)(1) Safety and quality policy, maintenance procedures and quality system

1. The primary objectives of the quality system are to enable the organisation to ensure that it can deliver a safe product and that organisation remains in compliance with the requirements.

2. An essential element of the quality system is the independent audit.

3. The independent audit is an objective process of routine sample checks of all aspects of the organisation‘s ability to carry out all maintenance to the required standards and includes some product sampling as this is the end result of the maintenance process. It represents an objective overview of the complete maintenance related activities and is intended to complement the 145.50(a) requirement for certifying staff to be satisfied that all required maintenance has been properly carried out before issue of the certificate of release to service. Independent audits should include a percentage of random audits carried out on a sample basis when maintenance is being carried out. This means some audits during the night for those organisations that work at night.

4. Except as specified in sub-paragraphs 7 and 9, the independent audit should ensure that all aspects of CAR-145 compliance are checked every 12 months and may be carried out as a complete single exercise or subdivided over the 12 month period in accordance with a scheduled plan. The independent audit does not require each procedure to be checked against each product line when it can be shown that the particular procedure is common to more than one product line and the procedure has been checked every 12 months without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other product lines until the findings have been rectified after which the independent audit procedure may revert back to 12 monthly for

the particular procedure. For GCAA Approved Maintenance Organisation based outside the United Arab Emirates, the GCAA audit is to be carried out at an interval, as deemed necessary by the GCAA.

5. Except as specified otherwise in sub-paragraphs 7, the independent audit should sample check one product on each product line every 12 months as a demonstration of the effectiveness of maintenance procedures compliance. It is recommended that procedures and product audits be combined by selecting a specific product example, such as an aircraft or engine or instrument and sample checking all the procedures and requirements associated with the specific product example to ensure that the end result should be an airworthy product.

   For the purpose of the independent audit a product line includes any product under an Appendix II to CAR-145 class rating as specified in the approval schedule issued to the particular organisation. It therefore follows for example that a maintenance organisation approved under CAR-145 with a capability to maintain aircraft, repair engines, brakes and autopilots would need to carry out 4 complete audit sample checks each year except as specified otherwise in subparagraphs 5, 7 or 9.

6. The sample check of a product means to witness any relevant testing and visually inspect the product and associated documentation. The sample check should not involve repeat disassembly or testing unless the sample check identifies findings requiring such action.

7. Except as specified otherwise in sub-paragraph 9, where the smallest organisation, that is an organisation with a maximum of 10 personnel actively engaged in maintenance, chooses to contract the independent audit element of the quality system in accordance with 145.65 (c)(1) it is conditional on the audit being carried out twice in every 12 month period.

8. Except as specified otherwise in sub-paragraph 9, where the organisation has line stations listed as per 145.75 (d) the quality system should describe how these are integrated into the system and include a plan to audit each listed line station at a frequency consistent with the extent of flight activity at the particular line station. Except as specified otherwise in sub-paragraph 9 the maximum period between audits of a particular line station should not exceed 24 months.

9. Except as specified otherwise in sub-paragraph 5, the GCAA may agree to increase any of the audit time periods specified in this AMC 145.65 (c)(1) by up to 100% provided that there are no safety related findings and subject to being satisfied that the organisation has a good record of rectifying findings in a timely manner.

10. A report should be raised each time an audit is carried out describing what was checked and the resulting findings against applicable requirements, procedures and products.

11. The independence of the audit should be established by always ensuring that audits are carried out by personnel not responsible for the function, procedure or products being checked. It therefore follows that a large maintenance organisation approved under CAR-145, being an organisation with

more than about 500 maintenance staff should have a dedicated quality audit group whose sole function is to conduct audits, raise finding reports and follow up to check that findings are being rectified. For the medium sized maintenance organisation approved under CAR-145, being an organisation with less than about 500 maintenance staff, it is acceptable to use competent personnel in accordance with 145.30(e) from one section/department not responsible for the production function, procedure or product to audit the section/department that is responsible subject to the overall planning and implementation being under the control of the quality manager. Organisations with a maximum of 10 maintenance staff actively engaged in carrying out maintenance may contract the independent audit element of the quality system to another organisation or a qualified and person approved by the GCAA

12. All audit finding corrective action time frame, should be in accordance with CAR 145.95.

AMC 145.65(c)(2) Safety and quality policy, maintenance procedures and quality system

1. An essential element of the quality system is the quality feedback system.

2. The quality feedback system may not be contracted to outside persons. The principal function of the quality feedback system is to ensure that all findings resulting from the independent quality audits of the organisation are properly investigated and corrected in a timely manner and to enable the accountable manager to be kept informed of any safety issues and the extent of compliance with CAR-145, EASA Part-145, UK CAA 145 or other NAA regulations.The independent quality audit reports referenced in AMC 145.65(c)(1) subparagraph 10 should be sent to the relevant department(s) for rectification action giving target rectification dates. Rectification dates should be discussed with such department(s) before the quality department or nominated quality auditor confirms such dates in the report. The relevant department(s) are required by 145.65(c)(2) to rectify findings and inform the quality department or nominated quality auditor of such rectification.

3. The accountable manager should hold regular meetings with staff to check progress on rectification except that in the large organisations such meetings may be delegated on a day to day basis to the quality manager subject to the accountable manager meeting at least twice per year with the senior staff involved to review the overall performance and receiving at least a half yearly summary report on findings of non-compliance.

4. All records pertaining to the independent quality audit and the quality feedback system should be retained for at least 2 years after the date of clearance of the finding to which they refer or for such periods as to support changes to the AMC145.65(c)(1) sub- paragraph 9 audit time periods, whichever is the longer.

GM 145.65(b)(1) Safety and quality policy, maintenance procedures and quality system

Appendix XI to AMC CAR M.708(c) provides guidance on the elements that need to be considered for the maintenance contract between the CAMO and the maintenance organisation. The CAR-145

organisation should take into account these elements to ensure that a clear contract or work order has been concluded before providing maintenance services.

GM 145.65(c)(1) Safety and quality policy, maintenance procedures and quality system

1. The purpose of this GM is to give guidance on just one acceptable working audit plan to meet part of the needs of 145.65 (c)1. There is any number of other acceptable working audit plans.
2. The proposed plan lists the subject matter that should be covered by the audit and attempts to indicate applicability in the various types of workshops and aircraft facilities. The list should therefore be tailored for the particular situation and more than one list may be necessary. Each list should be shown against a timetable to indicate when the particular item is scheduled for audit and when the audit was completed.

PARA	Comment	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.25		Yes	Yes	Yes	Yes
145.30		Yes	Yes	Yes	Yes
145.35		Yes	Yes	Yes	Yes
145.40		Yes	Yes	Yes	Yes
145.42		Yes	Yes	Yes	Yes
145.45		Yes	Yes	Yes	Yes
145.47		Yes	Yes	Yes	Yes
145.48		Yes	Yes	If appl	If appl
145.50		Yes	Yes	Yes	Yes
145.55		Yes	Yes	Yes	Yes
145.60		Yes	Yes	Yes	Yes
145.65		Yes	Yes	Yes	Yes
2.1	MOE	Yes	Yes	Yes	Yes
2.2	MOE	Yes	Yes	Yes	Yes
2.3	MOE	Yes	Yes	Yes	Yes
2.4	MOE	Yes	Yes	Yes	Yes
2.5	MOE	Yes	Yes	Yes	Yes
2.6	MOE	Yes	Yes	Yes	Yes
2.7	MOE	Yes	Yes	Yes	Yes
2.8	MOE	Yes	Yes	Yes	Yes
2.9	MOE	Yes	Yes	Yes	Yes
2.10	MOE	Yes	No	No	No
2.11	MOE	Yes	Yes	Yes	Yes

2.12	MOE	Yes	Yes	If appl	if appl
2.13	MOE	Yes	Yes	Yes	Yes
2.14	MOE	Yes	Yes	Yes	Yes
2.15	MOE	Yes	No	No	No
2.16	MOE	Yes	Yes	Yes	Yes
2.17	MOE	if appl	if appl	if appl	if appl
2.18	MOE	Yes	Yes	Yes	Yes
2.19	MOE	Yes	Yes	Yes	Yes
2.20	MOE	Yes	Yes	Yes	Yes
2.21	MOE	if appl	if appl	if appl	if appl
2.22	MOE	Yes	Yes	No	NO
2.23	MOE	Yes	Yes	if appl	if appl
2.24	MOE	Yes	Yes	Yes	Yes
2.25	MOE	Yes	Yes	Yes	Yes
2.26	MOE	Yes	Yes	Yes	Yes
2.27	MOE	Yes	Yes	Yes	Yes
2.28	MOE	Yes	Yes	Yes	Yes
L2.1	MOE	if appl	No	No	No
L2.2	MOE	if appl	No	No	No
L2.3	MOE	if appl	No	No	No
L2.4	MOE	if appl	No	No	No
L2.5	MOE	if appl	No	No	No
L2.6	MOE	if appl	No	No	No
L2.7	MOE	if appl	No	No	No
3.9	MOE	if appl	if appl	if appl	if appl
3.10	MOE	if appl	if appl	if appl	if appl
3.11	MOE	if appl	if appl	if appl	if appl
3.12	MOE	Yes	Yes	No	No
3.13	MOE	Yes	Yes	Yes	Yes
3.14	MOE	Yes	Yes	Yes	Yes
145.70		Yes	Yes	Yes	Yes
145.75		Yes	Yes	Yes	Yes
145.80		Yes	Yes	Yes	Yes
145.85		Yes	Yes	Yes	Yes
145.95		if appl	if appl	if appl	if appl

NOTE 1: "if appl" means if applicable or relevant

NOTE 2: In the line station case all line stations should be audited at the frequency agreed with the GCAA within the limits of AMC 145.65(c)(1).

CAR 145.70 Maintenance Organisation Exposition

(a) 'Maintenance organisation exposition' means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organisation intends to comply with this regulation. The organisation shall provide the GCAA with a maintenance organisation exposition, containing the following information:

1. A statement signed by the accountable manager confirming that the maintenance organisation exposition and any referenced associated manuals define the organisation's compliance with this regulation and will be complied with at all times. When the accountable manager is not the chief executive officer of the organisation then such chief executive officer shall countersign the statement;
2. the organisation's safety and quality policy as specified by 145.65;
3. the title(s) and name(s) of the persons nominated under 145.30(b);
4. the duties and responsibilities of the persons nominated under 145.30(b), including matters on which they may deal directly with the Authority on behalf of the organisation;
5. an organisation chart showing associated chains of responsibility between the persons nominated under 145.30(b);
6. a list of certifying staff and support staff;
7. a general description of manpower resources;
8. a general description of the facilities located at each address specified in the organisation's certificate ;
9. a specification of the organisation's scope of work relevant to the extent of approval;
10. the notification procedure of 145.85 for organisation changes;
11. the maintenance organisation exposition amendment procedure;
12. the procedures and quality system established by the organisation under 145.25 to 145.90 including requirements of CAR-M mentioned in this CAR and requirements contained in 10.2 of CAR Part VI Chapter 3;
13. a list of commercial operators, where applicable, to which the organisation provides an aircraft maintenance service;
14. a list of subcontracted organisations, where applicable, as specified in 145.75(b);
15. a list of line stations, where applicable, as specified in 145.75(d);
16. a list of contracted organisations, where applicable.

(b) The exposition shall be amended as necessary to remain an up-to-date description of the organisation. The exposition and any subsequent amendment shall be approved by the GCAA.

(c) Notwithstanding paragraph (b) minor amendment to the exposition may be approved through an exposition procedure, subject to the criteria of the minor amendment is defined in the exposition.Notwithstanding paragraphs (a) and (b), the GCAA may accept the exposition produced by the organisation supplemented by specific control procedures to address the differences to ensure compliance with CAR-145.

AMC 145.70(a) Maintenance Organisation Exposition

The following information should be included in the maintenance organisation exposition:

i. The information specified in 145.70(a)(6) and 145.70(a)(12) to 145.70(a)(16) inclusive, whilst a part of the maintenance organisation exposition, may be kept as separate documents or on separate electronic data files subject to the management part of said exposition containing a clear cross reference to such documents or electronic data files.

ii. The exposition should contain the information, as applicable, specified in this AMC. The information may be presented in any subject order so long as all applicable subjects are covered. Where an organisation uses a different format, for example, to allow the exposition to serve for more than one approval, then the exposition should contain a cross reference Annex using this list as an index with an explanation as to where in the exposition the subject matter can be found in the exposition.

iii. The exposition should contain information, as applicable, on how the maintenance organisation complies with Critical Design Configuration Control Limitation CDCCL instructions.

iv. Small maintenance organisations may combine the various items to form a simple exposition more relevant to their needs.

v. The operator may use electronic data processing EDP for publication of the maintenance organisation exposition. The maintenance organisation exposition should be made available in a form and manner acceptable to the GCAA. Attention should be paid to the compatibility of EDP publication systems with the necessary dissemination of the maintenance organisation exposition, both internally and externally.

PART 0 GENERAL ORGANISATION

0-0 INTRODUCTION
0-1 General Info – Background, Name, Address, Tel & Fax address& email address
0-2 Table of Content
0-3 List of Effective pages
0-4 List of Revision/Amendment
0-5 Distribution List

PART 1 MANAGEMENT

1.1 Corporate commitment by the accountable manager.
1.2 Safety and quality policy.

1.3 Management personnel.
1.4 Duties and responsibilities of the management personnel.
1.5 Management organisation chart.
1.6 List of certifying staff and support staff.
1.7 Manpower resources.
1.8 General description of the facilities at each address intended to be approved.
1.9 Organisations intended scope of work.
1.10 Notification procedure to the GCAA regarding changes to the organisation‘s activities/ approval/location/personnel.
1.11 Exposition amendment procedures including, if applicable, delegated procedures.

PART 2 MAINTENANCE PROCEDURES

2.1 Supplier evaluation and subcontract control procedure.
2.2 Acceptance/inspection of aircraft components and material from outside contractors.
2.3 Storage, tagging and release of aircraft components and material to aircraft maintenance.
2.4 Acceptance of tools and equipment.
2.5 Calibration of tools and equipment.
2.6 Use of tooling and equipment by staff (including alternate tools).
2.7 Cleanliness standards of maintenance facilities.
2.8 Maintenance instructions and relationship to aircraft/aircraft component manufacturers' instructions including updating and availability to staff.
2.9 Repair procedure.
2.10 Aircraft maintenance program compliance.
2.11 Airworthiness directives procedure.
2.12 Optional modification procedure.
2.13 Maintenance documentation in use and its completion.
2.14 Technical record control.
2.15 Rectification of defects arising during base maintenance.
2.16 Release to service procedure.
2.17 Records for the operator.
2.18 Reporting of defects to the GCAA/operator/manufacturer.
2.19 Return of defective aircraft components to store.
2.20 Defective components to outside contractors.
2.21 Control of computer maintenance record systems.
2.22 Control of man-hour planning versus scheduled maintenance work.
2.23 Critical maintenance tasks and error capturing methods.
2.24 Reference to specific maintenance procedures such as:
- Engine running procedures,
- Aircraft pressure run procedures,
- Aircraft towing procedures,

- Aircraft taxiing procedures.

2.25 Procedures to detect and rectify maintenance errors.

2.26 Shift/task handover procedures.

2.27 Procedures for notification of maintenance data inaccuracies and ambiguities, to the type certificate holder.

2.28 Production planning procedures

2.29 Reserved

2.30 Reserved

ADDITIONAL (L2) LINE MAINTENANCE PROCEDURES

L2.1 Line maintenance control of aircraft components, tools, equipment etc.

L2.2 Line maintenance procedures related to servicing/fuelling/de-icing including inspection for/removal of de-icing/anti-icing fluid residues, etc.

L2.3 Line maintenance control of defects and repetitive defects.

L2.4 Line procedure for completion of technical log.

L2.5 Line procedure for pooled parts and loan parts.

L2.6 Line procedure for return of defective parts removed from aircraft.

L2.7 Line procedure for critical maintenance tasks and error capturing methods.

PART 3 QUALITY SYSTEM PROCEDURES

3.1 Quality audit of organisation procedures.

3.2 Quality audit of aircraft.

3.3 Quality audit remedial action procedure.

3.4 Certifying staff and support staff qualification and training procedures.

3.5 Certifying staff and support staff records.

3.6 Quality audit personnel.

3.7 Qualifying inspectors and/or practical assessor.

3.8 Qualifying mechanics.

3.9 Aircraft or aircraft component maintenance tasks exemption process control.

3.10 Concession control for deviation from organisations' procedures.

3.11 Qualification procedure for specialized activities such as NDT welding etc.

3.12 Control of manufacturers' and other maintenance working teams.

3.13 Human factors training procedure.

3.14 Competence assessment of personnel.

3.15 Training procedures for on-the-job experience (OJE) as per the OJE Section of Appendix III to CAR 66.

3.16 Procedure for the issue of a recommendation to the GCAA for the issue of CAR 66 licence.

3.17 MORC Procedure (if authorised).

PART 4

4.1 Contracted operators.
4.2 Operator procedures and paperwork.
4.3 Operator record completion.

PART 5

5.1 Sample of documents.
5.2 List of Sub-contractors as per 145.75(b).
5.3 List of Line maintenance locations as per 145.75(d).
5.4 List of contracted organisations as per 145.70(a)(16).

PART 6 OPERATORS MAINTENANCE PROCEDURES

This section is reserved for those maintenance organisations approved under CAR-145 who are also operators.

GM 145.70(a) Maintenance organisation exposition

1. The purpose of the maintenance organisation exposition MOE is to set forth the procedures, means and methods of the organisation.

2. Compliance with its contents will assure compliance with the requirements of CAR-145, which is a pre-requisite to obtaining and retaining an approved maintenance organisation certificate.145.70(a)(1) to 145.70(a)(11) constitutes the 'management' part of the MOE and therefore could be produced as one document and made available to the person(s) specified under 145.30(b) who should be reasonably familiar with its contents. 145.70(a)(6) list of certifying staff and B1 and B2 support staff may be produced as a separate document.

3. 145.70(a)(12) constitutes the working procedures of the organisation and therefore as stated in the requirement may be produced as any number of separate procedures manuals. It should be remembered that these documents should be cross referenced from the management MOE.

4. Personnel are expected to be familiar with those parts of the manuals that are relevant to the maintenance work they carry out.

5. The organisation should specify in the MOE who should amend the manual particularly in the case where there are several parts.

6. The quality manager should be responsible for monitoring the amendment of the MOE, unless otherwise agreed by the GCAA, including associated procedures manuals and submission of the proposed amendments to the GCAA. However the GCAA may agree via a procedure stated in the amendment section of the MOE that some defined class of amendments may be incorporated without prior approval by the GCAA.

7. The MOE should cover four main parts:

   a) The management MOE covering the parts specified earlier.
   b) The maintenance procedures covering all aspects of how aircraft components may be accepted from outside sources and how aircraft will be maintained to the required standard.
   c) The quality system procedures including the methods of qualifying mechanics inspection, certifying staff and quality audit personnel.
   d) Contracting operator procedures and paperwork.

8. The accountable manager‘s exposition statement as specified under 145.70(a)(1) should embrace the intent of the following paragraph and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent.

This exposition and any associated referenced manuals define the organisation and procedures upon which the CAR-145 approval is based as required by 145.70. These procedures are approved by the undersigned and should be complied with, as applicable, when work orders are being progressed under the terms of the CAR-145 approval.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the GCAA from time to time where these new or amended regulations are in conflict with these procedures. It is understood that the GCAA will approve this organisation whilst the GCAA is satisfied that the procedures are being followed and work standards maintained. It is further understood that the GCAA reserves the right to suspend, limit or revoke the approval of the organisation if the GCAA has evidence that procedures are not followed or standards not upheld.

Signed..... Dated..... Accountable Manager and..... (quote position)..... For and on behalf of..... (quote organisation‘s name).....

NOTE: Whenever the accountable manager changes it is important to ensure that the new accountable manager signs the paragraph 9 statement at the earliest opportunity. Failure to carry out this action could invalidate the CAR-145 approval.

GM 145.70(d) Maintenance Organisation Exposition

1. The acceptance criteria are:

   (a) The maintenance organisation is based outside the UAE (FAMO).

(b) The maintenance organisation has:

I. An approved UK CAA or EASA MOE with GSP or

II. An FAA Repair Station Manual with EASA Supplement with GSP; or

III. An Approved TCAA/Brazilian ANAC Exposition Manual with EASA Supplement with GSP, or

IV. An Approved NAA Exposition Manual (Acceptance under GCAA-NAA Bilateral) with GSP.

2. Organisations not meeting these criteria must produce a GCAA MOE as per CAR-145.70(a).

3. The differences are defined in Appendix II – SUPPLEMENTARY REQUIREMENTS to the APPROVED MAINTENANCE ORGANISATION CERTIFICATE.

a) FAMOs (except for organization described in Para 2), should comply with CAR 145.70(d) and must publish their General Supplementary Procedures (Ref: Template AWF-AMO-008) to meet the requirements contained in Appendix II – Supplementary Requirements of AMO Certificate (Ref: AWF-AMO 007B). Failure to comply with CAR 145.70(d), the GCAA will reject any application for initial AMO approval or extension and the AMO Certificate is deemed invalid;

b) FAMO should publish and update the GSP and distribute it to its staff;

c) FAMO should submit the updated GSP to GCAA;

I. when revised, or
II. following GCAA Template Ref: AWF-AMO-008 revision, or
III. during an AMO application, or
IV. during any audit, or
V. anytime when requested.

CAR 145.75 Privileges of the organisation

In accordance with the approved exposition, the organisation holding the GCAA approval shall be entitled to carry out the following tasks:

(a) Maintain any aircraft and/or component for which it is approved at the locations identified in the certificate and in the exposition;

(b) Arrange for maintenance of any aircraft or component for which it is approved at another organisation that is working under the quality system of the organisation. This refers to work being carried out by an organisation not itself appropriately approved to carry out such maintenance under this Regulation and is limited to the work scope permitted under 145.65(b) procedures. This work scope shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module; A base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine shall be carried out by organisations approved by the GCAA.

(c) Maintain any aircraft or any component for which it is approved at any location subject to the need for such maintenance arising either from the un-serviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the exposition;

NOTE: (For occasional line maintenance, limited to a period of not exceeding 40 days)

(d) Maintain any aircraft and/or component for which it is approved at a location identified as a line maintenance location capable of supporting minor maintenance and only if the organisation exposition both permits such activity and lists such locations;

(e) Issue certificates of release to service in respect of completion of maintenance in accordance with 145.50;

(f) Issue certificates of Fitness for Flight to release an aircraft for a flight when it is not possible to issue a Certificate of Release to Service when and as required by Appendix VII to CAR-145; and

(g) Conduct activities as per MORC scheme defined in Section B of this CAR.

AMC 145.75(b) Privileges of the organisation

1. Working under the quality system of an organisation appropriately approved under CAR-145 (subcontracting) refers to the case of one organisation, not itself appropriately approved to CAR-145 that carries out aircraft line maintenance or minor engine maintenance or maintenance of other aircraft components or a specialized service as a subcontractor for an organisation appropriately approved under CAR-145. To be properly approved to subcontract the organisation should have a procedure for the control of such subcontractors as described below. Any approved maintenance organisation that carries out maintenance for another approved maintenance organisation within its own approval scope is not considered to be subcontracting for the purpose of this paragraph.

   NOTE: Any Line Maintenance Station accepted under subcontract control procedure must be listed in the Maintenance organization Exposition (Part 5).

2. Maintenance of engines or engine modules other than a complete workshop maintenance check or overhaul is intended to mean any maintenance that can be carried out without disassembly of the core engine or, in the case of modular engines, without disassembly of any core module.

GM 145.75 (b) Privileges of the organisation

This means that the complete workshop maintenance check of an engine module or overhaul of an engine module can be accepted using AW Form 1 or equivalent release form as specified under CAR 145.42.

1. FUNDAMENTALS OF SUB-CONTRACTING UNDER CAR-145

1.1 The fundamental reasons for allowing an organisation approved under CAR-145 to sub-contract certain maintenance tasks are:

(a) To permit the acceptance of specialized maintenance services, such as, but not limited to, plating, heat treatment, plasma spray, fabrication of specified parts for minor repairs/modifications, etc., without the need for direct approval by the GCAA in such cases.

(b) To permit the acceptance of aircraft maintenance up to but not including a base maintenance check as specified in 145.75(b) by organisations not appropriately approved under CAR-145 when it is unrealistic to expect direct approval by the GCAA. The GCAA will determine when it is unrealistic but in general it is considered unrealistic if only one or two organisations intend to use the sub-contract organisation.

(c) To permit the acceptance of component maintenance.

(d) To permit the acceptance of engine maintenance up to but not including a workshop maintenance check or overhaul of an engine or engine module as specified in 145.75(b) by organisations not appropriately approved under CAR-145 when it is unrealistic to expect direct approval by the GCAA. The determination of unrealistic is as per sub-paragraph (b).

1.2 When maintenance is carried out under the sub-contract control system it means that for the duration of such maintenance, the CAR-145 approval has been temporarily extended to include the sub-contractor. It therefore follows that those parts of the sub-contractor‘s facilities personnel and procedures involved with the maintenance organisation‘s products undergoing maintenance should meet CAR-145 requirements for the duration of that maintenance and it remains the organisation‘s responsibility to ensure such requirements are satisfied.

1.3 For the criteria specified in sub-paragraph 3.1 the organisation is not required to have complete facilities for maintenance that it needs to sub-contract but it should have its own expertise to determine that the sub-contractor meets the necessary standards. However an organisation cannot be approved unless it has the in-house facilities, procedures and expertise to carry out the majority of maintenance for which it wishes to be approved in terms of the number of class ratings.

1.4 The organisation may find it necessary to include several specialist subcontractors to enable it to be approved to completely certify the release to service of a particular product. Examples could be specialist welding, electro-plating, painting etc. To authorise the use of such subcontractors, the GCAA will need to be satisfied that the organisation has the necessary expertise and procedures to control such sub- contractors.

1.5 An organisation working outside the scope of its approval schedule is deemed to be not approved. Such an organisation may in this circumstance operate only under the sub-contract control of another organisation approved under CAR-145.

1.6 Authorisation to sub-contract is indicated by the GCAA accepting the maintenance organisation exposition containing a specific procedure on the control of sub-contractors.

2. PRINCIPAL CAR-145 PROCEDURES FOR THE CONTROL OF SUB-CONTRACTORS NOT APPROVED UNDER CAR-145

2.1 A pre-audit procedure should be established whereby the maintenance organisation's subcontract control section, which may also be the 145.65(c) quality system independent audit section, should audit a prospective sub-contractor to determine whether those services of the sub-contractor that it wishes to use meets the intent of CAR-145.

2.2 The organisation approved under CAR-145 needs to assess to what extent it will use the subcontractor's facilities. As a general rule the organisation should require its own paperwork, approved data and material/spare parts to be used, but it could permit the use of tools, equipment and personnel from the sub-contractor as long as such tools, equipment and personnel meet the requirement of CAR-145. In the case of sub- contractors who provide specialized services it may for practical reasons be necessary to use their specialized services personnel, approved data and material subject to acceptance by the organisation approved under CAR-145.

2.3 Unless the sub-contracted maintenance work can be fully inspected on receipt by the organisation approved under CAR-145 it will be necessary for such organisation to supervise the inspection and release from the sub-contractor. Such activities should be fully described in the organisation procedure. The organisation will need to consider whether to use its own staff or authorise the subcontractor's staff.

2.4 The certificate of release to service may be issued either at the sub-contractor or at the organisation facility by staff issued a certification Authorisation in accordance with 145.30 as appropriate, by the organisation approved under CAR-145. Such staff would normally come from the organisation approved under CAR-145 but may otherwise be a person from the sub-contractor who meets the approved maintenance organisation certifying staff standard which itself is approved by the GCAA via the maintenance organisation exposition. The certificate of release to service and the AW Form 1 will always be issued under the maintenance organisation approval reference.

2.5 The sub-contract control procedure will need to record audits of the subcontractor, to have a corrective action follow up plan and to know when subcontractors are being used. The

procedure should include a clear revocation process for sub-contractors who do not meet the CAR-145 approved maintenance organisation's requirements.

2.6 The CAR-145 quality audit staff will need to audit the sub-contract control section and sample audit sub-contractors unless this task is already carried out by the quality audit staff as stated in subparagraph 4.1.

2.7 The contract between the CAR-145 approved maintenance organisation and the sub-contractor should contain a provision for the GCAA team staff to have right of access to the sub-contractor.

CAR 145.80 Limitations on the organisation

The organisation shall only maintain an aircraft or component for which it is approved when all the necessary facilities, equipment, tooling, material, maintenance data and certifying staff are available.

AMC 145.80 Limitations on the organisation

This paragraph is intended to cover the situation where the larger organisation may temporarily not hold all the necessary tools, equipment etc., for an aircraft type or variant specified in the organisation's approval. This paragraph means that the GCAA need not amend the approval to delete the aircraft type or variants on the basis that it is a temporary situation and there is a commitment from the organisation to re-acquire tools, equipment etc. before maintenance on the type may recommence.

CAR 145.85 Changes to the organisation

The organisation shall notify the GCAA of any proposal to carry out any of the following changes before such changes take place to enable the GCAA to determine continued compliance with this regulation and to amend, if necessary, the certificate, except that in the case of proposed changes in personnel not known to the management beforehand, these changes must be notified at the earliest opportunity:

1. the name of the organisation;
2. the main location of the organisation;
3. additional locations of the organisation;
4. the accountable manager;
5. any of the persons nominated under 145.30(b);
6. the facilities, equipment, tools, material, procedures, work scope or certifying staff that could affect the approval.

AMC 145.85 Changes to the organisation

The primary purpose of this paragraph is to enable the organisation to remain approved if agreed by the GCAA during negotiations about any of the specified changes. Without this paragraph the approval would automatically be suspended in all cases.

CAR 145.90 Continued validity

(a) An approval once issued shall remain valid subject to:

1. the organisation remaining in compliance with CAR-145 and CAR Part III Chapter 9, in accordance with the provisions related to the handling of findings as specified in 145.95, and
2. the GCAA being granted access to the organisation to determine continued compliance with this Regulation, and
3. the certificate not being surrendered or revoked.

(b) Upon surrender or revocation, the approval shall be returned to the GCAA.

CAR 145.95 Findings

(a) Level One (1) – A significant non- compliance with the CAR-145 regulations, which could jeopardize overall safety and requires immediate corrective action. The organisation's approval may be provisionally suspended in whole or in part depending upon the extent of the Level 1 finding until corrective action has been taken.

(b) Level Two (2) – A non- compliance with the CAR-145 regulations or the organisation's procedures, which could lower the organisation operations, maintenance and safety standard, which require corrective action and compliance within a period not exceeding sixty (60) days of first notification (inspectors shall use their discretion in setting the time frame).

Note: Repeated Level (2) findings could be an indication of deterioration on the organisations standards and controls. In this case the Inspector may decide to raise it to Level 1 and limitation on the operation shall apply.

(c) A level 3 finding (Observation) is a minor irregularity which are considered as observations and warrant attention.

(d) After receipt of notification of findings from the GCAA, the holder of the maintenance organisation approval shall identify the root cause of each finding and define an action plan, including corrective and preventive actions to address the finding(s) and prevent reoccurrence to the satisfaction the GCAA. The action plan must be complied with within the period agreed with the GCAA. Action may be taken by the GCAA to suspend in whole or part the approval in case of failure by an organisation to comply within the timescale granted by the GCAA

Note: GCAA SAFETY AFFAIRS AUDIT STANDARDS for organization finding categorization and process
https://www.gcaa.gov.ae/_layouts/download.aspx?SourceUrl=/EN/epublication/EPublications/Standards/GCAA%20SAFETY%20AFFAIRS%20AUDIT%20STANDARD.pdf

SECTION B: MAINTENANCE ORGANISATION REVIEW CERTIFICATE (MORC) REGULATIONS

CAR 145.100 General

(a) This Section establishes the requirements and privileges granted to an individual under the Maintenance Organisation Review Certificate (MORC) scheme.

(b) Organisation having the privilege to nominate Maintenance Organisation Review Certificate – Authorised Staff (MORC-AS) will be called an "approved organisation" for the purpose of this Section B.

CAR 145.101 Scope

(a) This Section defines the requirements for the issuance of the MORC Authorisation by the GCAA to specific individuals working for an approved organisation located within the territory of the United Arab Emirates.

(b) This Section also defines the requirements for a person or group of persons to be qualified as MORC-Authorised Staff (MORC-AS) and its associated privileges granted under this Section.

(c) The Section also establishes the control of the competence of the MORC-AS involved in MORC tasks in accordance with the procedure and standards agreed by the GCAA.

(d) The MORC–AS privilege shall be limited to the MORC Statement for line maintenance rating (A1) as defined in Appendix II to CAR-145 for the:

i Extension to the scope of approval for foreign AMO approved under EASA/UK CAA basis, and/or

ii Extension of the scope of approval for organisations manned line stations located outside the UAE.

AMC to CAR 145.101(a) Scope

(a) Only the MORC-AS employed by an approved organisation are authorised to exercise these MORC privileges on behalf of the GCAA and shall be listed in the MOE.

(b) The cross utilisation of GCAA MORC-AS between the approved organisations is acceptable under this Section, subject to an agreement between both organisations.

GM to CAR 145.101(d) Scope

Extension to the scope of approval is defined as:

(a) Addition of a line station to an existing GCAA AMO approval;

(b) Addition of an aircraft type to an approved GCAA Line Station.

CAR 145.102 Application

(a) The approved organisation shall submit an application for initial issuance of MORC-AS for a nominated person or group of persons after ensuring that he/she meets the requirements of 145.104(a) to 145.104(d).

(b) The approved organisation shall submit the application for renewal of the MORC-AS after ensuring that he/she meets the requirements of 145.105.

AMC to CAR 145.102 Application

The application should be made by the organisation to the GCAA using e-Services.

CAR 145.103 Terms of Approval

(a) The Terms of Approval shall be defined in the MORC-AS authorisation issued by the GCAA and shall not be exceeded.

(b) The approved organisation shall define the scope of MORC-AS authorisation in the MOE.

(c) The approved organisation shall maintain a record of all MORC – AS, which shall include details of any appropriate qualification held together with a summary of relevant engineering/maintenance, quality , auditing experience and trainings and a copy of the MORC authorisation. This record shall be retained until two years after the MORC-AS have left the organisation.

(d) The MORC-AS when exercising his privileges, shall represent the GCAA and be responsible for all functions specified in this regulation. He/she shall ultimately be responsible to the GCAA.

CAR 145.104 MORC Personnel Requirements

(a) The person or persons nominated by the approved organisation shall be able to demonstrate relevant knowledge, experience and competences defined in this Section.

(b) The person or persons shall be full time employee(s) of an approved organisation.

(c) The nominated person or group of persons shall:

1) have at least 5 years' experience in an aircraft maintenance and/or engineering and auditing functions within aircraft maintenance organisation of which a minimum of recent 6 months with the nominating organisation;

2) hold an appropriate maintenance license in compliance with CAR 66 or an aeronautical degree or a national equivalent;

3) be familiar with the relevant aircraft/engine type;

4) have received audit training;

5) have recent auditing experience;

6) be holding position within the approved organisation with appropriate defined auditing responsibilities;

7) be knowledgeable of maintenance organisation approval.

(d) The nominated person or group of persons shall have received the following initial/continuation training by the CAR-145 approved organisation:

1) relevant CAR regulations, including its intended meaning and standard;

2) a comprehensive understanding of Quality and Safety Management Systems;

4) Human Factors in maintenance;

5) Fuel Tank Safety training;

6) EWIS training (to the appropriate level).

(e) The nominated person or group of persons shall have completed MORC familiarisation initial and continuation training covering the following subjects:

1) GCAA AMO approval process in accordance with Appendix I to GM 145.15;

2) General familiarisation on GCAA e-Services;

3) Audit procedures;

4) GCAA MORC procedures, processes and forms;

5) The rights and obligations of the MORC-AS;

6) The role and authority of the MORC-AS when representing the GCAA;

7) Review of MOE in accordance with CAR-145 Regulation;

8) Issuance of MORC Statement to GCAA;

AMC to CAR 145.104(c)(5) MORC Personnel Requirement

The nominated person should have previous experience/skill or actively been involved in auditing in any of the following fields:

1) Maintenance/Engineering Quality,

2) ISO/IOSA,

3) Aviation safety,

4) Any other audit acceptable to the GCAA.

AMC to CAR 145.104(e) MORC Personnel Requirement

a) The Approved organisation may establish procedure and requirements in the exposition to assign the MORC initial/continuation training by a Senior MORC-AS to the eligible auditor, before nomination to the GCAA.
The evidence of the completion of this training must be provided during the application.

b) The organisation shall ensure that all MORC-AS receive sufficient MORC continuation training in each two years.

Note: Senior MORC-AS must have Minimum of 2 years' experience as MORC-AS with 4 MORC Audits.

GM to CAR 145.104(c)(1) MORC Personnel Requirements

The minimum of recent 6 months with the nominating organisation may be reduced, if the nominated person had previously been approved as a MORC-AS.

GM to CAR 145.104(c)(3) MORC Personnel Requirements

Familiar with aircraft/engine type means knowledge on similar aircraft technology to Level 1 of ATA 104 - General Familiarisation.

CAR 145.105 MORC Authorisation

(a) For issuance of the MORC-AS Authorisation, the nominated person shall:

1) meet the requirements defined in 145.104.

2) be accepted following an assessment performed by the GCAA Panel.

3) have signed the GCAA Non-Disclosure-Agreement (NDA).

(b) The MORC Authorisation Certificate shall be issued with a 2 year validity period and shall remain valid subject to:

1) The MORC-AS remaining in compliance with this regulation.

2) The authorisation is not surrendered, suspended or revoked.

3) The MORC-AS continues to be employed by the approved organisation.

4) The MORC-AS consistently demonstrates satisfactory standards.

(c) The approved organisation, upon surrender or revocation of the MORC-AS Authorisation shall return the certificate to the GCAA.

(d) For renewal of the MORC-AS authorisation, the person shall meet the following GCAA requirements:

1) Remain actively involved in audits, for a minimum of 12 months in the last 24 months period;

2) Has performed satisfactorily, a minimum of 1 MORC per year;

3) Has not shown any adverse trend in the quality and standards of the MORC tasks;

4) Has completed continuation trainings as defined in 145.104(d) and 145.104(e).

5) The authorized MORC trainer in the approved organisation shall be updated with the current GCAA CAR-145 regulation and publications at all times and be responsible to update the MORC-AS

AMC to CAR 145.105(b) MORC Authorisation

MORC Authorisation Certificate – Refer Appendix V to CAR-145.

AMC to CAR 145.105(d)(2) MORC Authorisation

The MORC-AS should demonstrate conduct of an equivalent of 3 relevant CAR-145 audits, acceptable to the GCAA, as an alternative to 1 MORC per year.

AMC to CAR 145.105(d) MORC Authorisation

The continuation training covered by the approved organisation should be of sufficient duration in the 24 months' period and the subjects may be split into a number of separate elements.

CAR 145.106 MORC Process, Documentation and Reports

(a) An approved organisation authorised to exercise the MORC Privilege in accordance with SECTION B of CAR-145) shall ensure that:

(1) the maintenance organisation it intends to contract or use services complies with SECTION A of CAR-145, and

(2) the compliance demonstration process is in compliance with SECTION B of CAR-145.

(b) At any time, the UAE Approved organisation (UAE operator) intending to use or contract maintenance services to any potential Maintenance Organisation, it shall ensure that the maintenance organisation is approved by the GCAA for the scope of maintenance works sought.

(c) The Approved organisation shall assign a MORC-AS whose role is to show compliance with CAR 145.106(d). The MORC-AS shall always comply with applicable GCAA publications and the confidentiality obligations prescribed by the GCAA. He/she shall completely abide by the terms defined in the NDA. The MORC-AS shall always execute his/her responsibilities in accordance with the best professional standards and industry practice.

(d) The privileges of an MORC-AS are to conduct a compliance review to show compliance with SECTION A of CAR-145 for the Extension of a CAR-145 Approval, in accordance with SECTION B of CAR-145 and using the appropriate checklist developed by approved organisation.

(e) If the approved organization decides to perform the MORC audit due to an unavoidable circumstances by means of a Desktop audit, it is mandatory to perform a physical audit within 3 months of the operation commencement.

(f) Any non-compliance noted by the MORC-AS during his/her review shall be supported with the appropriate evidence.

(g) The MORC–AS shall ensure that the compliance review is documented and any non-compliance identified as required by AMC2 145.106(d) is satisfactorily closed.

(h) The MORC-AS shall complete the MORC Statement using the prescribed form (AW-MORC-002). It is mandatory to mention the line maintenance scope in the MORC Statement/ Recommendation.

(i) The MORC-AS or the approved organisation is responsible for advising the GCAA of any potential or immediate safety concerns, as soon as practical, but in any case within 48 hours, if there is a failure to complete the MORC tasks or if the outcome of the MORC report is inconclusive. The reason or condition leading to the MORC failure or inability to complete the review shall be stated with adequate substantiation.

(j) The approved organisation shall provide the maintenance organisation with a MORC compliance review including audit report and the MORC Statement. The GCAA may use the MORC audit and the MORC Statement to facilitate the approval process of this organisation.

(k) The approved organisation shall be responsible for ensure that copies of the completed audit report/MORC Statement including the supporting evident(s) are filed in the approved maintenance organisation audit record system and shall be accessible only to authorised personnel and the GCAA for auditing purposes.

(l) The completed MORC Audit Record shall be retained by the approved organisation for 3 years and accessible to the GCAA, when required.

AMC1 to CAR 145.106(d) MORC Process, Documentation and Reports

The MORC report should state if the review include an audit on site, desktop audit or is based on a previously completed MORC report and if any re-audit is required.

AMC2 to CAR 145.106(d) MORC Process, Documentation and Reports

(a) The MORC Audit report filed by MORC-AS in the approved organisation's audit records system should contain assessment of supporting evidence(s) to cover the following requirements:

1) organisation background information;

2) aircraft types/capability applied for reference to GCAA/UK CAA /EASA MOE 1.9 Scope of Works, UK CAA/EASA MOE 5.3 – List of approved location/station and aircraft type or equivalent document;

3) GCAA/UK CAA/EASA Approvals – Latest GCAA Approval Page/EASA Form 3/UK CAA equivalent form;;

4) copy of the latest GCAA/EASA/UK CAA/ NAA audit reports performed on the organisation (if applicable);

5) current Nominated Personnel/Post Holders;

6) facility for the required scope of work- copy of MOE 1.8 –Description of Facility;

7) man-hour plan and procedures;

8) station aircraft movement, operators handled by the audited organisation and staff roster;

9) numbers of trained manpower and including certifying staff category A, B1, B2 or C (as applicable). Stating "sufficient number available" without any evidence is not considered acceptable;

10) certifying staff compliance with the requirements stipulated in Appendix IV to CAR-145;

11) certifying staff approval/authorisation issued to the staff in accordance with the procedure defined in the MOE;

12) certifying staff training on the operator's procedures and documentation;

13) applicable tooling/equipment/material required to perform the intended scope of work;

14) maintenance data and related maintenance documents;

15) review of the MOE and verify the latest GCAA/EASA/UK CAA MOE Revision status in the GCAA Q-Pulse (from the auditee);

16) Review the General Supplementary Procedure (GSP AWF-AMO-008) the latest revision, ;

17) Evidence of receipt of GCAA publication services, and access to GCAA Q-Pulse/ROSI Accounts;

18) safety concerns identified during the audit;

19) in the case of a Level 3 finding not closed at the time of submission of the MORC Statement, justification a should be provided;

20) any non-applicable requirements should be clearly identified;

21) copy of the signed MORC Statement Form Ref: AMO-MORC-002.

AMC to CAR 145.106(g) MORC Process, Documentation and Reports

It is required that all findings should be closed to the satisfaction of the MORC-AS and in accordance with 145.95.

GM to CAR 145.106(g) MORC Process, Documentation and Reports

A Level 3 finding may still remain open at the time of the submission of the MORC Statement. It is the responsibility of the MORC-AS to ensure that these findings are closed within the allowed timeframe as defined in 145.95.

AMC to CAR 145.106(i) MORC Process, Documentation and Reports

A safety concern should be understood as any situation which could jeopardise overall safety or a significant non-compliance with the CAR-145 regulations.

GM to CAR 145.106(i) MORC Documentation and Reports

The approved organisation /MORC-AS may elect to stop the MORC tasks whenever a potential or immediate safety concern is highlighted or discovered, and advise the GCAA.

CAR 145.107 MORC Exchange of Information

(a) This paragraph establishes the requirements for the exchange of information among the MORC-AS. All use and exchange of MORC reports, data and documentation is subject to the Non Disclosure Agreement / Confidentiality undertaking signed by the MORC-AS.

(b) The approved organisation is responsible for the retention of MORC compliance review including audit report and any other evidences or document obtained or collected during the review.

(c) The access to any MORC records in the organisation audit record system shall be restricted to the authorised person, the GCAA and MORC-AS

(d) The MORC-AS shall at all-time maintain the confidentiality of the information and shall not disclose the same to unauthorized person.

(e) Reserved

(f) The approved organisation may exchange MORC task compliance review including audit report/documentation produced or collected during the review with another approved organisation subject to mutual agreement between the parties.

CAR 145.108 Closure of MORC Report

(a) All MORC tasks shall be carried out and signed by the same MORC-AS.

(b) Upon acceptance of the MORC report by the GCAA, the Approved Maintenance Organisation certificate shall be issued. Any uncompleted or unsatisfactory reports shall be rejected.

AMC to CAR 145.108(b) Closure of MORC Report

GCAA reserves the right to reject any MORC Report at its sole discretion and judgement.

CAR 145.109 Quality Review and Audit

The GCAA shall review the MORC Scheme periodically or as and when required to ensure its effectiveness.

AMC to CAR 145.109 Quality Review and Audit

(a) The GCAA should review the MORC Scheme, annually or as deemed necessary. It may also be reviewed if there is any adverse report received.

(b) The result of the audit should be used as:

1) a basis for reviewing the competency standards of the MORC-AS;

2) a parameter for support the renewal of the MORC-AS authorisation;

3) a basis to support regulatory review.

APPENDICES TO THE CAR-145 REGULATIONS

APPENDIX I TO CAR-145 - AUTHORISED RELEASE CERTIFICATE - AW FORM 1

(Authorised Release Certificate –

AW Form 1 – Refer CAR M Appendix II)

APPENDIX II TO CAR-145 - ORGANISATIONS APPROVAL CLASS AND RATING SYSTEM

The provisions of Appendix IV to CAR-M apply:

1. Except as stated otherwise for the smallest organisation in paragraph 12, Table 1 outlines the full extent of approval possible under CAR-145 in a standardized form. An organisation must be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.

2. In addition to Table 1 the CAR-145 approved maintenance organisation is required by 145.20 to indicate scope of work in the maintenance organisation exposition. See also paragraph 11.

3. Within the approval class(es) and rating(s) granted by the GCAA, the scope of work specified in the maintenance organisation exposition defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the organisation's scope of work are compatible.

4. A category A class rating means that the CAR-145 approved maintenance organisation may carry out maintenance on the aircraft and any component (including engines/APUs) only whilst such components are fitted to the aircraft except that such components can be temporarily removed for maintenance when such removal is expressly permitted by the aircraft maintenance manual to improve access for maintenance subject to a control procedure in the maintenance organisation exposition. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval.

5. A category B class rating means that the CAR-145 approved maintenance organisation may carry out maintenance on the uninstalled engine/APU (‘Auxiliary Power Unit’) and engine/APU components only whilst such components are fitted to the engine/APU except that such components can be temporarily removed for maintenance when such removal is expressly permitted by the engine/APU manual to improve access for maintenance. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A CAR-145 approved maintenance organisation with a category B class rating may also carry out maintenance on an installed engine during ‘base’ and ‘line’ maintenance subject to a control procedure in the maintenance organisation exposition. The maintenance organisation exposition scope of work shall reflect such activity where permitted by the GCAA.

6. A category C class rating means that the CAR-145 approved maintenance organisation may carry out maintenance on uninstalled components (excluding engines and APUs) intended for fitment to the aircraft or engine/APU. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A CAR-145 approved maintenance organisation with a category C class rating may also carry out maintenance on an installed component during base and line maintenance or at an engine/APU maintenance facility subject to a control procedure in the maintenance organisation exposition. The maintenance organisation exposition scope of work shall reflect such activity where permitted by the GCAA.

7. A category D class rating is a self-contained class rating not necessarily related to a specific aircraft, engine or other component. The D1 — Non-Destructive Testing (NDT) rating is only necessary for a CAR-

145 approved maintenance organisation that carries out NDT as a particular task for another organisation. A CAR-145 approved maintenance organisation with a class rating in A or B or C category may carry out NDT on products it is maintaining subject to the maintenance organisation exposition containing NDT procedures, without the need for a D1 class rating.

8. Category A class ratings are subdivided into 'Base' or 'Line' maintenance, a CAR-145 approved maintenance organisation may be approved for either 'Base' or 'Line' maintenance or both. It should be noted that a 'Line' facility located at a main base facility requires a 'Line' maintenance approval.

9. The 'limitation' section, is intended to give the GCAA maximum flexibility to customize the approval to a particular organisation. Table 1 specifies the types of limitation possible and whilst maintenance is listed last in each class rating it is acceptable to stress the maintenance task rather than the aircraft or engine type or manufacturer, if this is more appropriate to the organisation. An example could be avionic systems installations and maintenance.

10. Table 1 makes reference to series, type and group in the limitation section of class A and B. Series means a specific type series such as Airbus 300 or A320 or 319 or Boeing 737-300 series (with the engine type fitted) or RB211-524 series or Cessna 150 or Cessna 172 or Beech 55 series (with the engine Type fitted) etc. Type means a specific type or model such as Airbus 320-214 type (with the engine fitted) or RB 211-524 B4 type or Cessna 172RG Type (with the engine type fitted) etc. Any number of series or types may be quoted.

11. When a lengthy capability list is used which could be subject to frequent amendment, then such amendment shall be in accordance with a procedure acceptable to the GCAA and included in the maintenance organisation exposition. The procedure shall address the issues of who is responsible for capability list amendment control and the actions that need to be taken for amendment. Such actions include ensuring compliance with CAR-145 for products or services added to the list.

12. A CAR-145 approved maintenance organisation which employs only one person to both plan and carry out all maintenance can only hold a limited scope of approval rating. The maximum permissible limits are:

CLASS	RATING	LIMITATIONS
AIRCRAFT	A2 AEROPLANES	PISTON ENGINE 5700 KG AND BELOW
AIRCRAFT	A3 HELICOPTERS	SINGLE PISTON ENGINE 3175 KG AND BELOW
ENGINES		LESS THAN 450 HP
COMPONENTS RATING OTHER THAN COMPLETE ENGINES OR APUs	C1 TO C22	AS PER CAPABILITY LIST
SPECIALISED	D1 NDT	NDT METHODS(S) TO BE SPECIFIED

It should be noted that such an organisation may be further limited by the GCAA in the scope of approval dependent upon the capability of the particular organisation.

TABLE 1

CLASS	RATING	LIMITATION	BASE	LINE
AIRCRAFT	A1 Aeroplanes above 5700 kg	Shall state aeroplane manufacturer or group or series or type (with the engine type fitted) and/or the maintenance tasks(s)		
	A2 Aeroplanes 5700 kg and below	Shall state aeroplane manufacturer or group or series or type (with the engine type fitted) and/or the maintenance tasks(s)		
	A3 Helicopters	Shall state helicopter manufacturer or group or series or type (with the engine type fitted) and /or the maintenance tasks(s)		
ENGINES	B1 Turbine	Shall state engine series or type and/or the maintenance task(s)		
	B2 Piston	Shall state engine manufacturer or group or series or type and/or the maintenance task(s)		
	B3 APU	Shall state engine manufacturer or series or type and/or the maintenance task(s)		
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1 Air Cond & Press	Shall state aircraft type or aircraft manufacturer or component manufacturer or the particular component and/or cross refer to a capability list in the exposition and/or maintenance task(s)		
	C2 Auto Flight			
	C3 Comms & Nav			
	C4 Doors – Hatches			
	C5 Electrical Power & Light			
	C6 Equipment			
	C7 Engine – APU			
	C8 Flight Controls			
	C9 Fuel			
	C10 Helicopter - Rotors			
	C11 Helicopter – Trans			
	C12 Hydraulic Power			
	C13 Indicating - Recording Systems			
	C14 Landing Gear			
	C15 Oxygen			

	C16 Propellers	
	C17 Pneumatic & Vacuum	
	C18 Protection ice/rain/fire	
	C19Windows	
	C20 Structural	
	C21 Water Ballast	
	C22 Propulsion Augmentations	
SPECIALIZED SERIVICES	D1 Non Destructive Testing	Will state particular NDT Method(s)

APPENDIX III TO CAR-145 - AWF-AMO-007 APPROVED MAINTENANCE ORGANISATION CERTIFICATE

(For GCAA Use)

APPENDIX IV TO CAR-145 - CONDITIONS FOR THE USE OF STAFF NOT QUALIFIED TO CAR 66 IN ACCORDANCE WITH 145.30(J)

1. Certifying staff in compliance with the following conditions will meet the intent of 145.30 (j)(1) and (2):

    (a) The person shall hold a licence or a certifying staff Authorisation issued under the country's National regulations in compliance with ICAO Annex 1.

    (b) The scope of work of the person shall not exceed the scope of work defined by the National licence or certifying staff authorisation.

    (c) The person shall demonstrate that he/she is competent to perform the maintenance tasks and associated certification he/she authorised for, as per applicable procedures (e.g. UAE's operators including HF) and applicable regulations (to their authorisation) – Refer to Table 1.

    (d) The person shall be trained on operator's procedures in accordance with AMC-74.

    (e) The person shall demonstrate five years maintenance experience for line maintenance certifying staff and eight years for base maintenance certifying staff. However, those persons whose authorised tasks do not exceed those of a CAR 66 category A certifying staff, need to demonstrate three years maintenance experience only.

    (f) Line maintenance certifying staff and base maintenance support staff shall receive type training at a level corresponding to CAR 66 Appendix III level 3 for every aircraft on which they are authorised to make certification. However those persons whose authorised tasks do not exceed those of a CAR 66 category A certifying staff may receive task training in lieu of complete type training.

    (g) Base maintenance certifying staff Category C must receive type training at a level corresponding to at least CAR 66 Appendix III level 3 for the initial aircraft and Level 1 for any subsequent aircraft type on which they are authorised to make certification.

2. Protected rights

    (a) 145.30(j) personnel before the entry into force of CAR 66 may continue to exercise their privileges without the need to comply with paragraph 1(c) to 1(g).

    (b) However after that date any certifying staff willing to extend the scope of their Authorisation to include additional privileges shall comply with paragraph 1 above.

    (c) Notwithstanding subparagraph 2(b) above, in the case of additional type training, compliance with paragraph 1(c), 1(d) and 1(e) is not required.

Table 1

Content of CAR-145 Regulations Training (applicable for Foreign Approved Maintenance Organisation).

Requirements **Knowledge Levels — Category A, B1, and B2 Aircraft Maintenance Engineers License**	Level(*)		
	A	B1	B2
Regulatory Documents CAR-145/CAR-M/ CAR MEL/IB's/Safety Alerts/Standalone AMC & GM/Safety Decisions	1	1	1
Certificate of Fitness for Flight **App VII to CAR-145** CFF Requirements Format of the Certificate	1	2	2
Personnel Requirements **CAR 145.30/35** Nominated Personnel Man hour Plan Human Factors Training One Off Authorization Competence assessment	 1 1 2 1 2	 1 2 2 2 2	 1 2 2 2 2
Certifying staff and support staff **CAR 145.35** Qualification Training Records Continuation Training Company Authorization	2	2	2
Equipment, tools and material **CAR 145.40** Availability Tool Control Calibration	2	2	2
Acceptance of components **CAR 145.42** Segregation Traceability Life Limited Equivalent to GCAA AW Form 1	2	2	2
Maintenance data **CAR 145.45** Availability of current data Common work card	2	2	2
Production planning **CAR 145.47** Stage Signing of complex maintenance tasks Shift Handover	2	2	2
Certification of maintenance **CAR 145.50** CRS Requirements CRS Statement Reference to GCAA CAR-145 Approval Number	2	2	2
Maintenance records **CAR 145.55**			

Records of maintenance work Carried out Record Retention	2	2	2
Occurrence reporting CAR 145.60 & AMC-22 Internal procedure GCAA Reporting of Safety Incident (ROSI)	2	2	2
Safety and quality policy, maintenance procedures and quality system CAR 145.65 Knowledge of quality policy and maintenance procedures	2	2	2
Voluntary Reporting System (VORSY) AMC-57 Awareness	2	2	2
MMEL/MEL CAR MEL Applicability/Familiarization	2	2	2
AD's/SB's/Mod/Repair CAR M 303 & 304 Applicability/Familiarization	2	2	2
ETOPS AMC-21 Training	2	2	2

(*)Knowledge Levels: Category A, B1, and B2 Aircraft Maintenance Engineers License

Basic knowledge for categories A, B1 and B2 are indicated by knowledge levels (1, 2 or 3) against each applicable subject.

The knowledge level indicators are defined on 3 levels as follows:

LEVEL 1: A familiarisation with the principal elements of the subject.
Objectives:
(a) The applicant should be familiar with the basic elements of the subject.
(b) The applicant should be able to give a simple description of the whole subject, using common words and examples.
(c) The applicant should be able to use typical terms.

LEVEL 2: A general knowledge of the theoretical and practical aspects of the subject. An ability to apply that knowledge.
Objectives: The applicant should be able to understand the theoretical fundamentals of the subject.
(a) The applicant should be able to give a general description of the subject using, as appropriate, typical examples. (b) The applicant should be able to use mathematical formulae in conjunction with physical laws describing the subject.
(c) The applicant should be able to read and understand sketches, drawings and schematics describing the subject.
(d) The applicant should be able to apply his knowledge in a practical manner using detailed procedures.

LEVEL 3: A detailed knowledge of the theoretical and practical aspects of the subject and a capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner.

Objectives:
(a) The applicant should know the theory of the subject and interrelationships with other subjects.

(b) The applicant should be able to give a detailed description of the subject using theoretical fundamentals and specific examples.
(c) The applicant should understand and be able to use mathematical formulae related to the subject. (d) The applicant should be able to read, understand and prepare sketches, simple drawings and schematics describing the subject.
(e) The applicant should be able to apply his knowledge in a practical manner using manufacturer's instructions. (f) The applicant should be able to interpret results from various sources and measurements and apply corrective action where appropriate.

APPENDIX V TO CAR-145 - AWF-MORC-001 MAINTENANCE ORGANISATION REVIEW CERTIFICATE

(Refer GCAA Form AWF-MORC 001)

APPENDIX VI TO CAR-145 - MAINTENANCE ORGANISATION REVIEW CERTIFICATE – STATEMENT

(Refer GCAA Form AWF-MORC 002)

APPENDIX VII TO CAR-145 - CERTIFICATE OF FITNESS FOR FLIGHT – REQUIREMENTS

1. INTRODUCTION

A Certificate of Fitness for Flight is required to be issued to release an aircraft for flight when it is not possible to issue a Certificate of Release to Service due to:

a) The need to fly the aircraft under Flight Permit in accordance with CAR-RCA section 8.
b) The need to conduct Maintenance Check Flight, as required where a maintenance check is not considered complete (therefore, Certificate of Release could not be signed) without the completion of the check flight as required by the maintenance data or the organisation's procedures.

NOTE: No Flight Permit is required for 1 b) above.

2. The Certificate for Fitness for Flight shall be issued in accordance with the procedures defined in the Maintenance Organisation Exposition.

3. For the issue of the Certificate of Fitness for Flight the organisation shall ensure that:

a) The aircraft is in compliance with the Approved Maintenance Program and with any other mandatory airworthiness requirements, except for the deviations from the mandatory airworthiness requirements that warrant flight conduct under flight permit condition,

b) Details of non-compliance with the airworthiness requirements are recorded,

c) There are no known conditions or defects that can endanger the safe operation of the aircraft,

d) All the necessary placards for the conduct of the flight are installed,

e) Details of any restriction/limitations considered necessary for the safe operations of the aircraft are reviewed and recorded,

f) If applicable to the specific Flight Permit or maintenance check flight, all necessary pre-flight checks are carried out and recorded,.

g) Details of the necessary tests required to be carried out by the crew or any other person involved in the flight, are made available,

4. The Certificate of Fitness for Flight shall be issued only by:

a) a holder of an aircraft maintenance engineers licence, appropriately type rated for the particular aircraft and authorised as being competent to issue such a certificate under the terms of approval granted to the organisation by the GCAA;

b) a person whom the GCAA has authorised to issue a Certificate of Fitness For Flight in particular case and in accordance with that authority; or

c) a person approved by the GCAA as being competent to issue such certificates, and in accordance with that approval.

5. The Certificate of Fitness for Flight shall be issued in accordance with the format acceptable to the GCAA.

Name of AMO: AMO Approval No:

Aircraft Type: Registration Mark: MSN:

AF hr:

Engine Type: ESN: #1: #2:
#3: #4:

Propeller Type: SN: #1: #2:
#3: #4:
APU Type: SN:

Purpose of flight:

Declaration:
It is hereby certified that the aircraft and the equipment fitted, has been inspected and is fit for flight, provided it meets the conditions and limitations (*) listed below:

(*) Limitations and Conditions:
(a) If the aircraft's airworthiness condition is affected during the period of validity, the certificate shall be reissued,
(b) The certificate shall be issued in duplicate; one on board of the aircraft and another copy shall be kept with the aircraft maintenance records,
(c) The period of validity shall be stated but shall not exceed 7 days.
(d) If this certificate is issued in support of a flight permit, the flight permit conditions shall be respected.

Name of Authorised person: Signature:

Authorisation No:

Date: Valid until:

6. Administrative requirements:

a). All records and supporting documents referred to during the issue of Certificate of Fitness for Flight should be retained and presented to the GCAA, when requested.

b). Copy of the Certificate of Fitness for Flight should be presented to the GCAA to support the application for Flight Permit.

NOTE: Where it is practically not feasible to produce a Certificate of Fitness for Flight at the time of application for a flight permit, such a certificate may be presented to the GCAA upon it being issued.

APPENDIX VIII TO CAR-145 - FUEL TANK SAFETY TRAINING (CAR-145.30(E))

This appendix includes general instructions for providing training on Fuel Tank Safety issues.

A) Affectivity

1) Large aeroplanes as with a maximum type certified passenger capacity of 30 or more or a maximum certified payload capacity of 7500 lbs (3402 kg) cargo or more, and
2) Large aeroplanes which contain CS25 amendment 1 or later in their certification basis.

B) Affected organisations

1) CAR-145 approved maintenance organisations involved in the maintenance of aeroplanes specified in paragraph (A) and fuel system components installed on such aeroplanes when the maintenance data are affected by CDCCL.
2) Reserved

C) Persons from affected organisations who should receive training

1) Phase 1 only:

   i. The group of persons representing the maintenance management structure of the organisation, the quality manager and the staff required to quality monitor the organisation.

   ii. Personnel of the GCAA responsible for the oversight of CAR-145 approved maintenance organisations

2) Phase 1 + Phase 2 + Continuation training:

   i. Personnel of the CAR-145 approved maintenance organisation required to plan, perform, supervise, inspect and certify the maintenance of aircraft and fuel system components specified in paragraph A).

D) General requirements of the training courses

1) Phase 1 – Awareness

   i. The training should be carried out before the person starts to work without supervision but not later than 6 months after joining the organisation.

   ii. Type: Should be an awareness course with the principal elements of the subject. It may take the form of a training bulletin, or other self-study or informative session. Signature of the reader is required to ensure that the person has passed the training.

   iii. Level: It should be a course at the level of familiarisation with the principal elements of the subject.

   iv. Objectives:

The trainee should, after the completion of the training:

1. Be familiar with the basic elements of the fuel tank safety issues.
2. Be able to give a simple description of the historical background and the elements requiring a safety consideration, using common words and showing examples of non-conformities.
3. Be able to use typical terms. Content: The course should include:
   a) A short background showing examples of FTS accidents or incidents,
   b) The description of concept of fuel tank safety and CDCCL,
   c) Some examples of manufacturers documents showing CDCCL items,
   d) Typical examples of FTS defects,
   e) Some examples of TC holders repair data,
   f) Some examples of maintenance instructions for inspection.

2) Phase 2 – Detailed training

i. The persons who have already attended the Level 2 Detailed training course from a CAR-145 maintenance organisation or from a CAR-147 training organisation are already in compliance with Phase 2 with the exception of continuation training.

ii. Staff who have not received the Phase 2 training are required to attend the training within 12 months of joining the organisation.

iii. Type: Should be a more in-depth internal or external course. It should not take the form of a training bulletin, or other self-study. An examination should be required at the end, which should be in the form of a multi choice question, and the pass mark of the examination should be 75%.

iv. Level: It should be a detailed course on the theoretical and practical elements of the subject. The training may be made either:

1. In appropriate facilities containing examples of components, systems and parts affected by Fuel Tank Safety (FTS) issues. The use of films, pictures and practical examples on FTS is recommended; or
2. By attending a distance course (e-learning or computer based training) including a film when such film meets the intent of the objectives and content here below. An e-learning or computer based training should meet the following criteria:

   a) A continuous evaluation process should ensure the effectiveness of the training and its relevance;
   b) Some questions at intermediate steps of the training should be proposed to ensure that the
   c) trainee is authorised to move to the next step;
   d) The content and results of examinations should be recorded;
   e) Access to an instructor in person or at distance should be possible in case support is needed.

3. Duration of 8 hours for phase 2 is an acceptable compliance.

When the course is provided in a classroom, the instructor should be very familiar with the data in Objectives and Guidelines. To be familiar, an instructor should have attended himself a similar course in a classroom and made additionally some lecture of related subjects.

v. Objectives:

The attendant should, after the completion of the training:

1. Have knowledge of the history of events related to fuel tank safety issues and the theoretical and practical elements of the subject, have an overview of the FAA regulations known as SFAR (Special FAR) 88 of the FAA and of JAA Temporary Guidance Leaflet TGL 47, be able to give a detailed description of the concept of fuel tank system ALI (including Critical Design Configuration Control Limitations CDCCL, and using theoretical fundamentals and specific examples;

2. Have the capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner;

3. Have knowledge on how the above items affect the aircraft;

4. Be able to identify the components or parts or the aircraft subject to FTS from the manufacturer‘s documentation,

5. Be able to plan the action or apply a Service Bulletin and an Airworthiness Directive.

vi. Content:

Following the guidelines described in paragraph E).

vii. Continuation training

1. The organisation should ensure that the continuation training is required in each two years period. The syllabus of the training programme referred to in 3.4 of the Maintenance Organisation Exposition (MOE) should include the additional syllabus for this continuation training.

2. The continuation training may be combined with the phase 2 training in a classroom or at distance.

3. The continuing training should be updated when new instruction are issued which are related to the material, tools, documentation and manufacturer‘s or directives.

E) Guidelines for preparing the content of Phase 2 courses

The following guidelines should be taken into consideration when the phase 2 training programme are being established:

1) understanding of the background and the concept of fuel tank safety,

2) how the mechanics can recognise, interpret and handle the improvements in the instruction for continuing airworthiness that have been made or are being made regarding the fuel tank system maintenance,
3) awareness of any hazards especially when working on the fuel system, and when the Flammability Reduction System using nitrogen is installed.

Paragraphs 1), 2) and 3) above should be introduced in the training programme addressing the following issues:

i. The theoretical background behind the risk of fuel tank safety: the explosions of mixtures of fuel and air, the behaviour of those mixtures in an aviation environment, the effects of temperature and pressure, energy needed for ignition etc., the 'fire triangle', and explain the concepts to prevent explosions:
   1. ignition source prevention and;
   2. flammability reduction.

ii. The major accidents related to fuel tank systems, the accident investigations and their conclusions,

iii. SFAR 88 of the FAA and JAA Interim Policy INT POL 25/12: ignition prevention program initiatives and goals, to identify unsafe conditions and to correct them, to systematically improve fuel tank maintenance),

iv. Explain briefly the concepts that are being used: the results of SFAR 88 of the FAA and JAA INT/POL 25/12: modifications, airworthiness limitations items and CDCCL,

v. Where relevant information can be found and how to use and interpret this information in the instructions for continuing airworthiness (aircraft maintenance manuals, component maintenance manuals, Service Bulletins…)

vi. Fuel Tank Safety during maintenance: fuel tank entry and exit procedures, clean working environment, what is meant by configuration control, wire separation, bonding of components etc.,

vii. Flammability reduction systems when installed: reason for their presence, their effects, the hazards of an FRS using nitrogen for maintenance, safety precautions in maintenance/working with an FRS,

viii. Recording maintenance actions, recording measures and results of inspections.

The training should include a representative number of examples of defects and the associated repairs as required by the TC/STC holders maintenance data.

F) Approval of training

For CAR-145 approved organisations, the approval of the initial and continuation training programme and the content of the examination can be achieved by the change to the MOE exposition. The necessary changes to the MOE to meet the content of this decision should be made and implemented at the time requested by the GCAA.

APPENDIX IX TO CAR-145 - UAE GCAA CAR-145 MAINTENANCE ORGANISATION APPROVAL PROCESS (CAR 145.15)

(Refer to Standalone AMC-73)

APPENDIX X TO CAR-145 - PERSONNEL CERTIFICATION FOR NON-DESTRUCTIVE TESTING OF AIRCRAFT, ENGINES, COMPONENTS AND MATERIALS

1. General

1.1 This Guidance Material advises the GCAA requirements for the qualification of Non-Destructive Testing (NDT) personnel, which shall be in accordance with any of the following standards; EN4179, ISO 9712 and NAS 410, and the approved organization's written practice/procedures/exposition for the authorization of NDT personnel.

1.2 This Guidance Material clarifies GCAA policy relating to the acceptability of organization based schemes for the qualification of the NDT personnel, in accordance with U.A.E NDT personnel requirements, and is intended to recognise the competence of independent certified NDT level 3 personnel.

1.3 The term NDT is used throughout this Guidance Material to include, but not limited to, liquid penetrant, magnetic particle, eddy current, ultrasonic, radiographic, thermography and other recognised methods, as identified in the above referenced standards and shall be applicable to all NDT methods used by approved organizations. Definitions of other key terms used throughout this Guidance Material are contained in Section 8.

2. Procedures for the Qualification of NDT Personnel

2.1 All approved Organizations involved in any aspect of NDT shall develop and maintain a written practice for the qualification and authorisation of their NDT personnel in accordance with standards referred to in 1.1. In all cases, the Organisation's written practice/ procedures/ exposition as defined, shall be approved by the responsible Level 3 (see Section 3).

3. Qualified Staff

3.1 GCAA approved organisations undertaking NDT must satisfy the GCAA, that they have sufficient qualified staff to discharge the responsibilities of their approval.

3.2 Organizations shall designate a Responsible Level 3, supported with evidence of certification, responsible to the Accountable Manager for the technical supervision of NDT. This individual will hold certification at Level 3 in the aerospace industry sector and will be referred to as the Responsible Level 3. This position shall be within the organisation's exposition, and any change in this position shall be advised to the GCAA.

3.3 Where the Responsible Level 3 is not qualified in all methods used by the organisation, then the additional Level 3 personnel necessary to provide coverage shall be nominated.

3.4 Additional Level 3 certification holders shall be listed in the organisation's exposition or reference made in the exposition to other documents containing the list of Level 3 holders.

3.5 The GCAA may accept persons outside the organisation as the nominated Level 3, provided written agreement exists between the individual ad the organisation.

4. Inspections and Certification of Inspections

4.1 NDT shall be carried out by personnel approved in accordance with the organisation's written practice/ procedure/ exposition. Where NDT procedures are specified by the organisation responsible for the design and/or manufacture of the aircraft, material, structure or component, then these must be used except where change is permitted and authorised as defined in paragraph 5 of this Appendix. Where inspections are to be undertaken, for which the responsible design/manufacturing organisation has not specified NDT procedures/specific instruction, then the NDT procedures/instruction shall be prepared in accordance with paragraph 5 of this Appendix and approved by a Level 3 holder qualified in the applicable method.

4.2 Certification of inspections will be made by personnel who hold Level 2 or Level 3 authorisations. However, where an inspection task is determined by the nominated Level 3 to have clearly defined acceptability and rejection criteria, then certification may be carried out by an authorised Level 1, as detailed within the written practice/ exposition.

4.3 Where Level 3 is required to carry out and certify an NDT inspection, then this person must either hold current Level 2 certification, or have successfully completed an appropriate Level 2 practical examination and maintained continuity in the application of practical testing, as defined in the referenced standards and detailed in the written practice/ exposition.

5. NDT Procedures and Instructions and their Approval

5.1 NDT procedures and instructions published and specified by the type certificate holder in NDT manuals, service bulletins, approved drawings etc., constitute airworthiness data.

5.2 Where the airworthiness data published by the type certificate holder permits simple changes of equipment, probes etc., then such changes may be carried out by a Level 2 or Level 3 suitably qualified in the appropriate method.

5.3 Changes not permitted in the airworthiness data require the written agreement of the type certificate holders responsible for the design of the product/ structure before such a change is implemented.

5.4 NDT instructions shall be approved by a Level 3 holders qualified in the applicable method.

5.5 The control of all NDT procedures and instructions. Including their preparation and authorisation within any GCAA approved organisation, shall be detailed in the organisation's written practice/ procedures/ exposition.

6. Suppliers and Sub-Contractors to Approved Organisations

6.1 All suppliers and sub-contractors to an approved organisation where NDT processes are performed shall detail within their written practice/ procedures/ exception how the organisation ensures that training and approval of NDT personnel shall meet the requirements of this Appendix.

7. Other Means of Compliance

7.1 Personnel holding a current UAE Aircraft Maintenance Engineer's type licence may undertake inspections, limited to colour contrast penetrant only.

8. Definitions

8.1 **Approval: (of NDT written practice):** The act of signing of NDT procedures by a responsible Level 3.

8.2 **Authorisation: (of NDT personnel**): Is issued by the Quality Manager after being qualified by the Responsible Level 3 based on the individual's competence as specified within the certificate.

8.3 **Certificate:** Document issued under the rules of any of the certification systems defined in this Guidance Material indicating that adequate confidence is provided, that the named person is competent to perform specified NDT.

8.4 **Industry sector:** A particular section of industry or technology where specialised NDT practices are used requiring specific product related knowledge, skill, equipment or training. An industrial sector may be interpreted to mean a product (welds, castings,) or an industry (aerospace, petrochemical…).

8.5 **NDT method:** Discipline applying a physical principle in NDT (e.g. ultrasonic method).

8.6 **NDT technique:** A specific way of utilising an NDT method (e.g. ultrasonic immersion technique).

8.7 **NDT written practice:** A written description of all parameters and precautions to be observed when applying an NDT technique to a specific test following an established standard, code or specification.

8.8 **NDT instruction:** A written description of the precise steps to be followed in testing to an established standards, code or specification or NDT procedure.

8.9 **NDT Level 1:** This is strictly a limited approval and is specified in the organisations written practice/ inspection procedures manual.

8.10 **NDT Level 2:** An individual qualified to perform and direct NDT according to established and recognised procedures. This is to include, but not limited to, selection of appropriate

technique for each method, to define the limitations of the method, to understand the limitation and application of the method, to set up and calibrate the specification, to prepare written test instructions and to organize and report the result of the tests.

8.11 **Responsible Level 3:** Certified Level 3 responsible to the Accountable Manager for the airworthiness aspects of NDT work undertaken by the organisation.

8.12 **Qualification:** The proven ability of NDT personnel to meet the requirements of a given specification in terms of physical requirements, training knowledge and experience necessary to perform the applicable NDT method.

8.13 **Type certificate:** For the purpose of this airworthiness Appendix, type certificate, includes type certificates, supplementary type certificates, Joint Parts Approval (JPA) authorisation or Joint Technical Standard Orders (JTSO) authorization.

Note: Other schemes of approval that may be considered for acceptance and satisfying EN 4179, ISO 9712 & NAS 410 (Non-destructive Testing, Personnel qualification)

APPENDIX XI TO CAR 145 – MINIMUM REQUIREMENTS FOR CAR 145 POST HOLDERS (CAR 145.30A, B & C)

1. Minimum Requirements for CAR 145 Post Holders

E-services			***E-services – Qualifications relevant to the position***			***E-services/ Relevant Work experience Requirements***
			CAR 145 training Requirements	*knowledge* **Requirements related to the Scope of Approval**	**Language Requirement**	
Post Holder - Accountable Manager **(2)**	145.30.(a)		• *Senior Management SMS Training - as applicable **(4)*** • *GCAA AM Post Holder Training.*	• *MOE awareness **(4)*** • *HF awareness **(4)***		*NR*
Post Holder - Maintenance	Nominated persons 145.30.(b) & (c) 145.30.(b).(4)	AMC 145.30 (b).3	• ***"A" rated Organisations**: License/* Relevant Engineering Degree ***(8).*** • ***"B" & "C" rated Organisations:** Has exercised Certifying Staff privileges on similar technologies or holds an AME License or a relevant Engineering Degree/Diploma **(9)**.* • ***Standalone "D1" rated Organisations:** trained on at least one NDT method listed in the scope of work of the organisation.* • *CAR 145 training **(4)**.* • *HF initial and continuation training (GM*	• *Comprehensive knowledge of the Organization's MOE **(6)*** • *Knowledge of Management of Change process* • *Knowledge of maintenance standards (6)* • *Knowledge of any associated regulatory requirement, as applicable (6)* • *Knowledge of a relevant sample of aircraft type(s) /component(s)/NDT method maintained, demonstrated by Experience or training course **(7)** **(6)** or by an assessment performed by the GCAA*	• *Ability to read, write and communicate to an understandable level in the English Language.*	• *Five years' relevant work experience in the application of aviation safety standards and safe maintenance practices relevant to the size and scope of the organisation.* • *Resources management skills (6)*
		AMC 145.30 (b).4				
		AMC 145.30(b).5				

			145.30(e)) ***(4).*** • *GCAA Post Holder Training* ***(4)****.* • *Fuel Tank Safety Training Phase 1 Awareness as applicable* ***(3)****.* • *SMS training (as applicable)* ***(4)****.* • *EWIS training (as applicable)* ***(4)****.*			
Post Holder - Quality		145.30(c) AMC 145.30(f).2	• *The above plus auditing techniques training* ***(4).***			

(1) The organisation may adopt any management title or add other nominated personnel (i.e. Logistics Manager).The minimum evidences needed f or these persons are identified in the grey blocks.

(2) in a small organisation where the A.M. is also having the role of any other management personnel as defined by AMC 145.30(b)(2), the requirements applicable to those personnel apply (ex. A.M. being also the Maintenance manager)

(3) applicable only to CAR 145 approved maintenance organisations involved in the maintenance of large airplanes (as defined in Decision 2009/007/R, Appendix IV to AMC 145.30(e) s amended) and fuel system components installed on such airplanes when the maintenance data are affected by CDCCL

(4) These trainings could be provided by the CAR 145 organisation, or by a CAR 147 organisation, or by any other organisation acceptable by the GCAA.

(5) “reserved”

(6) can be demonstrated by experience and/or appropriate training

(7) "relevant sample" means that those courses should cover typical systems embodied in those aircraft/components being within the scope of approval

(8) relevant engineering degree’ means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components

(9) Recommended Higher National Diploma (HND)

Definitions and guidance:

2.1 **Basic Knowledge:** in which a familiarization with the principal elements of the subject; applicant:

- should be able to give a simple description of the whole subject, using common words and examples, and
- should be able to use typical terms

2.2 **Thorough / Comprehensive Knowledge: D**etailed knowledge of the theoretical and practical aspects of the subject, the applicant:

- Should be able to apply that knowledge,
- should be able to give a detailed description of the subject using, as appropriate, typical examples,
- should be able to understand the fundamentals of the subject,
- should be able to apply his knowledge in a practical manner using detailed procedures of the organisation he is applying for, and
- Should know the interrelationships with other subjects

2.3 **Working Experience:** means actual experience gained throughout the applicant's career in performing functions in a similar environment to the position applied for.

2.4 **Practical experience:** means the experience of being involved in performing tasks relevant to the position applied for which:

- Are aimed at gaining sufficient experience in the real maintenance environment;
- Should include direct involvement in exercising the privileges, by means of performing tasks related to the subject,
- Should be on the particular aircraft types within organisation's scope of approval or on a similar aircraft.
- Should cover a wide range of a representative cross section of CAR 145 tasks in complexity and variety;
- May be gained within different types of organisations, maintenance (145, CAR M Subpart F, etc.) or CAR 21 organisations;
- Experience shall have been acquired within the 10 years preceding the application, and preferably, 1 year of the required experience shall be recent experience of civil aircraft AMO to ensure adequate understanding and currency of the civil aircraft airworthiness environment requirements.
- For a combination of positions, the experience should include activities of the both subjects.
- Experience gained outside civil aviation field, for example, in military aviation and civilian apprenticeships will be credited where GCAA is satisfied that such experience is equivalent to that required by GCAA.

APPENDIX XII TO CAR 145 – REQUIREMENTS FOR CERTIFYING STAFF UNDER SUBCONTRACT ARRANGEMENT IN ACCORDANCE WITH CAR 145.75(B)

1. The requirements of CAR 145.75(b)/AMC CAR 145.75(b) remain applicable, including organizational procedure documented in the exposition, to control the sub-contracting of Line Maintenance when the Certifying Staff are not holding a CAR 66 License.

1.1 He/she shall hold a License or Certifying Staff Authorization issued under the country's National regulations in compliance with ICAO Annex 1 or an appropriately type rated UK CAA / EASA Part 66 Licence and currently employed by the sub-contract organisation;

1.2 He/she shall have demonstrated 5 years line maintenance experience, as certifying staff;

1.3 He/she shall have received type training corresponding to CAR 66 Appendix III Level 3 for every aircraft on which they are authorized to make certification and the aircraft types must be endorsed in the NAA/UK CAA/EASA Approval Certificate;

1.4 He/she shall have completed the applicable training and continuation training on GCAA Regulation and those defined in Appendix IV to CAR 145 including operator documentation & procedure;

1.5 He/she shall demonstrate that he/she is competent to perform the maintenance tasks and associated certification he/she is authorised to carry out, as per applicable procedures (e.g. UAE's operator's procedures including HF) and applicable regulations (to their authorisation) – Refer to Table 1 in Appendix IV to CAR 145

2. The Certifying Staff authorization shall be granted by the organization arranging the sub-contracted Line Maintenance;

3. The scope of work of the Certifying Staff shall not exceed the scope of work defined by the National Licence or Certifying Staff authorization and shall be limited up to defect rectification or MEL deferral only;

4. The name of the sub-contracted organization and the station shall be endorsed or referred in the MOE;

5. The organization is responsible to control and maintain the Certifying Staff trainings and records, and other associated records for the sub-contracted arrangement;

6. The organization shall continue to do risk assessment to evaluate the risk associated with the sub-contract arrangement to ensure safe practice.