STATE OF KUWAIT
Directorate General of Civil Aviation

دولة الكويت
الإدارة العامة للطيران المدني

Date : 2019/12/24 التـــاريـخ :

Ref : 19/1496/DDGASD/4 الإشـارة :

REGULATORY CIRCULAR (NO. 2019-39)

Subject:

Notice of Amendment to Kuwait Civil Aviation Safety Regulations KCASR (issue 4).

Purpose:

The purpose of this Regulatory Circular No. **2019-39** is to Amend KCASR 8 – Airworthiness of Aircraft and Continuous Airworthiness- Part 145 Maintenance Organization Approvals (AMC & GM) (issue 4) .

This Regulatory Circular No. **2019-39** is based on (NPA) No. 2019-21 dated on 24/Nov/2019.

Revisions:

This amendment will be included in revision (2) of KCASR 8 – Airworthiness of Aircraft and Continuous Airworthiness- Part 145 Maintenance Organization Approvals (AMC & GM) .

Regulatory Requirements:

This amendment shall apply to the following Organizations approved by the Directorate General of Civil Aviation (DGCA) or authorized to operate within the State of Kuwait:

1. Approved Maintenance Organizations (AMO) Holders;
2. Air Navigation Service Providers;
3. Air Operator Certificate (AOC) & Private Operator Certificate (POC) Holders;
4. Airport Operators;
5. Ground Handling Service Providers;
6. Flying Training Organizations;
7. All users of KCASRs.

Effective Date:

This new revision will be in effect from (12/Jan/2020).

Required Action:

All users of KCASR are required to comply with the provisions contained within this amendment from the effective date.

President of Civil Aviation

Eng. Emad F. Al-Jelwi
Deputy Director General For Aviation
Safety, Air Transport, Civil Aviation
Security Department

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STATE OF KUWAIT
Directorate General of Civil Aviation

دولة الكويت
الإدارة العامة للطيران المدني

Date : 2019/12/24 التـــاريـخ :

Ref : 19/1474/DDGASD/4 الإشارة :

Deputy Director General for Air Navigation Affairs,
Directorate General of Civil Aviation,
Kuwait.

Sub.: ***Regulatory Circular No. 2019-39.***
Revision Number 02 to Kuwait Civil Aviation Safety Regulations – KCASR 8 – Airworthiness of Aircraft and Continuous Airworthiness- Part 145 Maintenance Organization Approvals (AMC & GM).

Dear Sir,

Please find enclosed herewith the regulatory circular No. 2019-39 regarding the issuance of ***KCASR 8 - Airworthiness of Aircraft and Continuous Airworthiness- Part 145 Maintenance Organization Approvals (AMC & GM).*** This is for your information and distribution to all concerned departments.

Up to date KCASR Parts are published on the DGCA/ASD website (https://kcasr.dgca.gov.kw).

If required, the DGCA/Aviation Safety Department personnel are available to answer your questions on the interpretation and intended implementation of the proposed amendments.

KCASR 8 – Airworthiness of Aircraft and Continuous Airworthiness- Part 145 Maintenance Organization Approvals (AMC & GM) will be in effect from the date of shown on Regulatory Circular.

Yours Sincerely,

Eng. Emad F. Al-Jelwi
Deputy Director General For Aviation
Safety, Air Transport, Civil Aviation
Security Department

Deputy Director General for Aviation Safety
& Air Transport.

Cc: President of Civil Aviation.
Director General of Civil Aviation.
Aviation Safety Director.
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ص.ب : ١٧ الصفاة - الرمز البريدي ١٣٠٠١ دولة الكويت - البدالة ٢٤٣٣٦٦٩٩ (٩٦٥+) - الرد الآلي : ١٦١ (٩٦٥+) - الفاكس : ٢٤٧١٣٥٠٤ (٩٦٥+)
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#	Page	Para # in Source	Reference Section/Article	Amendmant
1.	6	125		[TABLE] 2 Dec 2019 NPA 2019-21 – Rev 1
2.	7	212		DC.1.1 Pursuant to Law No (30) of the year 1960 and subsequent Ministerial Decisions No (3) of the year 1986, No (18) of the year 1990, and No (3) of the year 1996, based upon that Law and as reflected in the Preamble to the Kuwait Civil Aviation Safety Regulations, Issue ~~3~~4, Rev.~~0~~2, August ~~2013~~2019, the President of the Kuwait Directorate General of Civil Aviation is empowered to adopt and amend Kuwait Civil Aviation Safety Regulations. In accordance herewith, the following AMC and GM is hereby established for compliance by all persons concerned. This AMC and GM shall be known as KCASR 8 – Part 145 Maintenance Organisations Approvals Acceptable Means of Compliance (AMC) and Guidance Material (GM) and any reference to this title shall mean referring to these regulations governing the basic requirements to be met for civil aviation in the State of Kuwait.
3.	18	453		Competence assessment should include the verification for the need of additional EWIS training when relevant. Guidance is provided for an EWIS training programme to maintenance organisation personnel as shown in EASA (AMC20, AMC 20-22).
4.	26	1051	(6.)	1 For the purposes of KCASR 1, Part 66, 66.A.20(a)(1) and 66.A.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 aircraft maintenance programme. For aircraft maintenance programmes that do not specify a weekly check, ~~the competent authority~~Kuwait DGCA will determine the most significant check that is considered equivalent to a weekly check.
5.	27	1070	(6.)(r)	Any other task agreed by Kuwait DGCA ~~the competent authority~~ as a simple task for a particular aircraft type. This may include defect deferment when all the following conditions are met:
6.	27	1073	(6.)(3)	The maintenance action required by the MEL is agreed by the ~~competent authority~~Kuwait DGCA to be simple.
7.	27	1083	(6.)(4.)	The Kuwait DGCA 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 competent authority~~Kuwait DGCA is satisfied that the scope of work, as defined in the Maintenance Organisation Exposition, does not need the availability of all B1, B2 and 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.
8.	42	1330	(6.)	AMC1 145.A.48(b) Performance of maintenance
9.	42	1331	(6.)	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.
10	42	1332	(6.)	AMC2 145.A.48(b) Performance of maintenance
11	42	1333	(6.)	INDEPENDENT INSPECTION
12	42	1334	(6.)	Independent inspection is one possible error-capturing method.
13	42	1335	(6.)(a)	What is an independent inspection
14	42	1336	(6.)(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:

#	Page	Para # in Source	Reference Section/Article	Amendmant
15	42	1337	(6.)(a)	(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;
16	42	1338	(6.)(a)	(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;
17	42	1339	(6.)(a)	(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;
18	42	1340	(6.)(a)	(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.
19	42	1341	(6.)(b)	Qualifications of persons performing independent inspections
20	42	1342	(6.)(b)	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:
21	42	1343	(6.)(b)	(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;
22	43	1344	(6.)(b)	(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
23	43	1345	(6.)(b)	(3) a commander holding a limited certification authorisation in accordance with 145.A.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.
24	43	1346	(6.)(c)	How to perform an independent inspection
25	43	1347	(6.)(c)	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:
26	43	1348	(6.)(c)	(1) all those parts of the system that have actually been disconnected or disturbed should be inspected for correct assembly and locking;
27	43	1349	(6.)(c)	(2) the system as a whole should be inspected for full and free movement over the complete range;
28	43	1350	(6.)(c)	(3) cables should be tensioned correctly with adequate clearance at secondary stops;
29	43	1351	(6.)(c)	(4) the operation of the control system as a whole should be observed to ensure that the controls are operating in the correct sense;
30	43	1352	(6.)(c)	(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
31	43	1353	(6.)(c)	(6) software that is part of the critical maintenance task should be checked, for example: version, compatibility with aircraft configuration.
32	43	1354	(6.)(d)	What to do in unforeseen cases when only one person is available
33	43	1355	(6.)(d)	REINSPECTION:

#	Page	Para # in Source	Reference Section/Article	Amendmant
34	43	1356	(6.)(d)	(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.
35	43	1357	(6.)(d)	(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.
36	43	1358	(6.)(d)	(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.
37	43	1360	(6.)(d)	AMC 145.A.48(c) Performance of maintenance
38	43	1361	(6.)(d)	The procedures should be aimed at:
39	43	1362	(6.)(a)	minimising multiple errors and preventing omissions. Therefore, the procedures should specify:
40	43	1363	(6.)(a)	(1) that every maintenance task is signed off only after completion;
41	44	1364	(6.)(a)	(2) how the grouping of tasks for the purpose of sign-off allows critical steps to be clearly identified; and
42	44	1365	(6.)(a)	(3) that work performed by personnel under supervision (i.e. temporary staff, trainees) is checked and signed off by an authorised person;
43	44	1366	(6.)(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.A.48(b).
44	44	1367	(6.)(b)	GM 145.A.48(c) Performance of maintenance
45	44	1368	(6.)(b)	To minimise the risk of multiple errors or errors being repeated, the organisation may implement:
46	44	1369	(6.)(b)	— procedures to plan the performance by different persons of the same task in different systems;
47	44	1370	(6.)(b)	— duplicate inspection or re-inspection procedures.
48	44	1371	(6.)(b)	GM 145.A.48(d) Performance of maintenance — critical design configuration control limitations (CDCCL)
49	44	1372	(6.)(b)	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 IV to AMC 145.A.35.
50	61	2008	(2.23)	Control of critical tasks and error capturing methods.

#	Page	Para # in Source	Reference Section/Article	Amendmant
51	61	2025	(2.28)	L2.7 Line procedure control of critical tasks and error capturing methods.
52	62	2041	(3.15)	Training procedures for on-the-job training as per Section 6 of Appendix III to KCASR Part 1, Part-66 (limited to the case where the competent authorityKuwait DGCA for the KCASR 8, Part 145 approval and for the KCASR 1, Part 66 licence is the same).
53	62	2042	(3.16)	Procedure for the issue of a recommendation to the Kuwait DGCA for the issue of a KCASR 1, Part-66 licence in accordance with 66.B.105 (limited to the case where the competent authorityKuwait DGCA for the KCASR 8, Part 145 approval and for the KCASR 1, Part-66 licence is the same).
54	87	3662	F Approval of training	END



Kuwait Civil Aviation Safety Regulations

KCASR 8 - AIRWORTHINESS OF AIRCRAFT AND CONTINUOUS AIRWORTHINESS

PART 145
MAINTENANCE ORGANISATION APPROVALS
(AMC & GM)

Table of Contents

Table of Contents 2
Amendment Record 6
Control of this Document 7
Subpart General 8
AMC 145.1 General 8
AMC 145.A.10 Scope 9
GM 145.A.10 Scope 9
AMC 145.A.15 Application 11
AMC 145.A.20 Terms of Approval 11
AMC 145.A.25(a) Facility Requirements 12
AMC 145.A.25(b) Facility Requirements 12
AMC 145.A.25(d) Facility Requirements 13
AMC 145.A.30(a) Personnel Requirements 13
AMC 145.A.30(b) Personnel Requirements 13
AMC 145.A.30(c) Personnel Requirements 14
AMC 145.A.30(d) Personnel Requirements 14
AMC 1 145.A.30(e) Personnel Requirements 15
AMC 2 145.A.30(e) Personnel Requirements 16
AMC 3 145.A.30(e) Personnel requirements 17
AMC 4 145.A.30(e) Personnel requirements 18
GM 1 145.A.30 (e) Personnel Requirements (Training syllabus for initial human factors training) 18
GM 2 145.A.30(e) Competence Assessment Procedure 21
GM 3 145.A.30(e) Template for Recording Experience/Training 23
AMC 145.A.30(f) Personnel Requirements 25
AMC 145.A.30(g) Personnel Requirements 26
AMC 145.A.30(h) Personnel requirements 27
AMC 145.A.30(j) (4) Personnel Requirements 28
GM 145.A.30(j) (4) Personnel Requirements (Flight Crew) 29
AMC 145.A.30(j) (5) Personnel Requirements 30
AMC 145.A.30(j) (5)(i) Personnel Requirements 30
AMC 145.A.30(j) (5)(ii) Personnel Requirements 31
AMC 145.A.35(a) Certifying staff and support staff 31

AMC 145.A.35(b) Certifying staff and support staff 32
AMC 145.A.35(c) Certifying staff and support staff 32
AMC 145.A.35(d) Certifying staff and support staff 32
AMC 145.A.35(e) Certifying staff and support staff 33
AMC 145.A.35(f) Certifying staff and support staff 34
AMC 145.A.35(j) Certifying staff and support staff 34
AMC 145.A.35(n) Certifying staff and support staff 34
AMC 145.A.35(o) Certifying staff and support staff 35
AMC 145.A.40(a) Equipment, tools and material 35
AMC 145.A.40(b) Equipment, tools and material 35
AMC 145.A.42(a) Acceptance of Components 36
AMC 145.A.42(b) Acceptance of Components 36
AMC 145.A.42(c) Acceptance of Components 36
AMC 145.A.42(d) Acceptance of Components 38
AMC 145.A.45(b) Maintenance Data 38
AMC 145.A.45(c) Maintenance Data 39
AMC 145.A.45(d) Maintenance Data 40
AMC 145.A.45(e) Maintenance Data 40
AMC 145.A.45(f) Maintenance Data 40
AMC 145.A.45(g) Maintenance Data 41
AMC 145.A.47(a) Production Planning 41
AMC 145.A.47(b) Production Planning 41
AMC 145.A.47(c) Production Planning 42
AMC1 145.A.48(b) Performance of maintenance 42
AMC2 145.A.48(b) Performance of maintenance 42
AMC 145.A.50(a) Certification of Maintenance 44
AMC 145.A.50(b) Certification of Maintenance 44
AMC No 1 145.A.50(d) Certification of Maintenance 45
AMC No 2 145.A.50(d) Certification of Maintenance 46
GM 145.A.50(d) DGCA Form 1 Block 12 'Remarks' 50
AMC 145.A.50(e) Certification of Maintenance 50
AMC 145.A.50(f) Certification of Maintenance 51
GM 145.A.55(a) Maintenance Records 51
AMC 145.A.55(c) Maintenance Records 52
AMC 145.A.60(a) Occurrence reporting 52

GM 145.A.60(a) Occurrence Reporting 52
AMC 145.A.60(b) Occurrence Reporting 52
GM 145.A.60(c) Occurrence Reporting 52
AMC 145.A.65(a) Safety and Quality Policy, Maintenance Procedures and Quality System 53
AMC 145.A.65(b) Safety and Quality Policy, Maintenance Procedures and Quality System 53
AMC 145.A.65(b)(2) Safety and Quality Policy, Maintenance Procedures and Quality System 53
AMC 145.A.65(b)(3) Safety and Quality Policy, Maintenance Procedures and Quality System 53
AMC 145.A.65(c)(1) Safety and Quality Policy, Maintenance Procedures and Quality System 55
GM 145.A.65(c)(1) Safety and Quality Policy, Maintenance Procedures and Quality System 56
AMC 145.A.65(c)(2) Safety and Quality Policy, Maintenance Procedures and Quality System 59
AMC 145.A.70(a) Maintenance Organisation Exposition 59
GM 145.A.70(a) Maintenance Organisation Exposition 63
AMC 145.A.75(b) Privileges of the Organisation 64
AMC 145.A.80 Limitations on the Organisation 67
Section B - Procedure for Kuwait DGCA 68
AMC 145.B.10(a) The Authority - General 68
AMC 145.B.10(c) The Authority - Qualification and Training 68
AMC 145.B.10(d) The Authority - Procedures 69
AMC 145.B.20(a) Initial Approval 69
AMC 145.B.20(b) Initial Approval 69
AMC 145.B.20(c) Initial Approval 69
AMC 145.B.20(e) Initial Approval 70
AMC 145.B.20(f) Initial Approval 70
AMC 145.B.25(a) Issue of Approval 70
AMC 145.B.25(b) Issue of Approval 70
AMC 145.B.25(c) Issue of Approval 70
AMC 145.B.30(a) Continuation of an Approval 71
AMC 145.B.30(b) Continuation of an Approval 71
AMC 145.B.35 Changes 71
AMC 145.B.35(a) Changes 71
AMC 145.B.40 MOE Amendments 71

AMC 145.B.50 (a) Findings 72
AMC 145.B.50 (b) Findings 72
AMC 145.B.55 Record-keeping 73
AMC to KCASR 8 - Part 145 Appendix III Maintenance Organisation Approval referred to in KCASR 8 - Part 145 73
Appendix I (DGCA Form 4) 74
Appendix II Approval Recommendation Report (DGCA Form 6) 75
Appendix III to AMC 145.A15 (DGCA Form 2) 82
Appendix IV to AMC 145.A.30 (e) and 145.B.10(3) Appendix IV Fuel Tank Safety Training 84

Amendment Record

Amendment No	Date of Issue	Remarks
1	June 2018	Part Rename
2	Dec 2019	NPA 2019-21 – Rev 1

Control of this Document

DC.1 Introduction

DC.1.1 Pursuant to Law No (30) of the year 1960 and subsequent Ministerial Decisions No (3) of the year 1986, No (18) of the year 1990, and No (3) of the year 1996, based upon that Law and as reflected in the Preamble to the Kuwait Civil Aviation Safety Regulations, Issue 4, Rev.2, August 2019, the President of the Kuwait Directorate General of Civil Aviation is empowered to adopt and amend Kuwait Civil Aviation Safety Regulations. In accordance herewith, the following AMC and GM is hereby established for compliance by all persons concerned. This AMC and GM shall be known as KCASR 8 – Part 145 Maintenance Organisations Approvals Acceptable Means of Compliance (AMC) and Guidance Material (GM) and any reference to this title shall mean referring to these regulations governing the basic requirements to be met for civil aviation in the State of Kuwait.

DC.2 Authority for this Regulation

DC.2.1 This KCASR 8 – Part 145 Maintenance Organisations Approvals Acceptable Means of Compliance (AMC) and Guidance Material (GM) is issued on the authority of the President of the Kuwait Directorate General of Civil Aviation.

DC.3 Applicability

DC.3.1 This KCASR 8 – Part 145 Maintenance Organisations Approvals Acceptable Means of Compliance (AMC) and Guidance Material (GM) is applicable to the aviation industry of the State of Kuwait.

DC.4 Scope

DC.4.1 KCASR 8 - Part 145 AMC and GM contains material in support of the approval of maintenance organisations, and shows compliance with ICAO Annexes 8 and 6.

DC.5 Definitions

DC.5.1 Terms not defined shall have the meaning given to them in the relevant legal instruments or international legal instruments in which they appear, especially as they appear in the Convention and its Annexes.

Section General

Subpart General

AMC 145.1 General

(a) For the purpose of this KCASR 8 - Part 145, the authority shall be the Directorate General of Civil Aviation of the State of Kuwait.

(b) Organisations involved in the maintenance of all aircraft used for private and commercial air transport, and components intended for fitment thereto, shall be approved in accordance with this Part.

(c) Part 21 referred to herein means KCASR 8 - Part 21.

(d) The forms used in this part are for samples purposes only. The required Forms can be obtained from the Kuwait DGCA website.

Section A – Technical

AMC 145.A.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:

      (1) Trouble shooting.

      (2) Defect rectification.

      (3) Component replacement with use of external test equipment if required. Component replacement may include components such as engines and propellers.

      (4) 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.

      (5) 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 Kuwait DGCA.

   (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. For an organisation based in the State of Kuwait and to be approved in accordance with 145.A.10 means that the management as specified in 145.A.30 (a) and (b) should be located in the State of Kuwait.

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

GM 145.A.10 Scope

This Guidance Material (GM) provides guidance on how the smallest organisations satisfy the intent of KCASR 8, Part-145:

1. By inference, the smallest maintenance organisation would only be involved with 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 recognised that KCASR 8, Part 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 KCASR 8, Part 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 A4 Aircraft other than A1, A2 and A3

(d) Class B2 Piston engines with maximum output of less than 450 HP

(e) `Class C Components.

(f) Class D1 Non-destructive Inspections.

3.1 145.A.30 (b): The minimum requirement is for one full time person who meets the KCASR 1, Part 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.

(a) The quality monitoring function of 145.A.65(c) may be contracted to an appropriate organisation approved under Part-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 Kuwait DGCA.

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

(b) 145.A.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 Kuwait DGCA of the DGCA Form 4. With only one person the requirement for a separate record of authorization is unnecessary because the DGCA Form 3 approval schedule defines the authorization. An appropriate statement, to reflect this situation, should be included in the exposition.

(c) 145.A.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 visit pre-announced and 1 visit unannounced 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 KCASR 8, Part 145 approved maintenance organisation based upon up to 10 persons involved in maintenance.

4.1 145.A.30 (b): The normal minimum requirement is for the employment on a full-time basis of two persons who meet the Kuwait DGCA 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.A.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 Kuwait DGCA 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(a).

AMC 145.A.15 Application

In a form and in a manner established by the Kuwait DGCA means that the application should be made on an DGCA Form 2.

AMC 145.A.20 Terms of Approval

The following table identifies the ATA specification 2200 chapter 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 and Nav	23 – 34
	C4 Doors – Hatches	52
	C5 Electrical Power & Lights	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 Helicopters – Rotors	62 – 64 – 66 – 67
	C11 Helicopter – Trans	63 – 65
	C12 Hydraulic power	29
	C13 Indicating/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

AMC 145.A.25(a) Facility Requirements

1. Where the hangar 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 minimise 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.A.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.A.25(d) Facility Requirements

1. Storage facilities for serviceable aircraft components should be clean, well ventilated and maintained at a constant dry temperature to minimise the effects of condensation. Manufacturers 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 minimise damage and corrosion during storage.

AMC 145.A.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 Kuwait DGCA 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.

AMC 145.A.30(b) Personnel Requirements

1. Dependent upon the size of the organisation, the KCASR 8, Part 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 KCASR 8, Part 145 organisation where any one manager may also be the accountable manager, as determined by the Kuwait DGCA, 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.A.65 (b). The base maintenance manager is also responsible for any corrective action resulting from the quality compliance monitoring of 145.A.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.A.65 (b) and also responsible for any corrective action resulting from the quality compliance monitoring of 145.A.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.A.65 (b) and also responsible for any corrective action resulting from the quality compliance monitoring of 145.A.65 (c).

6. The Quality Manager's responsibility is specified in 145.A.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 Kuwait DGCA 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 KCASR 8, Part 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.

***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.) so long as the quality compliance monitoring staff specified in 145.A.65 (c) (1) remain independent.*

AMC 145.A.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.A.30 (b).

AMC 145.A.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 sub- paragraph, employed means the person is directly employed as an individual by the maintenance organisation approved under KCASR 8, Part 145 whereas contracted means the person is employed by another organisation and contracted by that organisation to the maintenance organisation approved under KCASR 8, Part 145.

2. The maintenance man-hour plan should take into account all maintenance activities carried out outside the scope of the KCASR 8, Part 145 approval.

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

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.A.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.A.25 (a) (2).

6. The quality monitoring compliance function man-hours should be sufficient to meet the requirement of 145.A.65 (c) which means taking into account AMC 145.A.65 (c). Where quality monitoring staff performs 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.A.30 (d).

AMC 1 145.A.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, certifying staff and support staff, whether employed or contracted, are assessed for competence before unsupervised work commences and competence is controlled on a continuous basis.

Competence should be assessed by evaluation of:

- on-the-job performance and/or testing of knowledge by appropriately qualified personnel, and
- records for basic, organisational, and/or product type and differences training, and
- 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 GM 3 to 145.A.30(e).

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

- which level of ongoing supervision would be required or whether unsupervised work could be permitted.
- 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 AMC 2 145.A.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):

   (a) 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.

   (b) 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.

   (c) 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.A.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.

   (d) 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.

   (e) 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.

   (f) Support staff are able to determine that relevant tasks or inspections have been carried out to the required standard.

   (g) 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.

   (h) Quality audit staff are able to monitor compliance with KCASR 8, Section 4 -145 identifying non-compliance in an effective and timely manner so that the organisation may remain in compliance with KCASR 8, Part 145.The competence assessment should be based upon the procedure specified in GM 2 to 145.A.30(e).

   Competence assessment should be based upon the procedure specified in GM 2 to 145.A.30(e).

AMC 2 145.A.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:

- Post-holders, managers, supervisors;
- Certifying staff, support staff and mechanics;
- Technical support personnel such as planners, engineers, technical record staff;

- Quality control/assurance staff;
- Specialised services staff;
- Human factors staff/human factors trainers;
- Store department staff, purchasing department staff;
- Ground equipment operators.

1. Initial human factors training should cover all the topics of the training syllabus specified in GM 145.A.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 remain 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 competent authority.

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

AMC 3 145.A.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.

Guidance is provided for training to maintenance organisation personnel in Appendix IV to AMC to 145.A.30(e) and 145.B.10(3).

AMC 4 145.A.30(e) Personnel requirements

Competence assessment should include the verification for the need of additional EWIS training when relevant. Guidance is provided for an EWIS training programme to maintenance organisation personnel as shown in EASA (AMC20, AMC 20-22).

GM 1 145.A.30 (e) Personnel Requirements (Training syllabus for initial human factors 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 (erg. 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
7	**Communications**
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

GM 2 145.A.30(e) Competence Assessment Procedure

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

- Persons responsible for this process,
- When the assessment should take place,
- Credits from previous assessments,
- Validation of qualification records,
- means and methods for the initial assessment,
- means and methods for the continuous control of competence including feedback on personnel performance,
- competences to be observed during the assessment in relation with each job function,
- actions to be taken when assessment is not satisfactory,
- recording of assessment results.

For example only, 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 Staff	Mechanics	Specialized Service Staff	Quality audit staff
Ability to consider human performance and limitations	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			X	X	X	X	
Ability to identify and properly plan performance of critical tasks		X	X	X			
Ability to priorities 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	
Ability to properly record and sign for work accomplished			X	X	X	X	
Ability to recognize the acceptability of parts to be installed prior to fitment				X	X		
Ability to split complex maintenance tasks into clear stages		X					
Ability to understand work orders, work cards and refer to and use applicable maintenance data		X	X	X	X	X	X
Ability to use information systems	X	X	X	X	X	X	X
Ability to use, control and be familiar with required tooling and / or equipment			X	X	X	X	
Adequate communication and literacy skills	X	X	X	X	X	X	X
Analytical and proven auditing skills (for example, objectivity, fairness, open- mindedness,							X
Maintenance error investigation skills							X
Resources management and production planning skills	X	X	X				
Teamwork, decision-making and leadership skills	X		X				

GM 3 145.A.30(e) 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.

Aviation Maintenance personnel experience credential

Name Given 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	☐ Engineering	☐ Technical records
☐ Store department	☐ Purchasing	

Mechanics/Technician

☐ Line Maintenance	☐ Base Maintenance	☐ Component Maintenance
☐ Servicing	☐ Removal/installation	☐ Testing/Inspection
☐ Scheduled Maintenance	☐ Inspection	☐ Repair
☐ Trouble-shooting	☐ Trouble-shooting	☐ Overhaul
	☐ Repair	☐ Re-treatment
		☐ Reassembly
A/C type	A/C type	Component type

Sample Only

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 ☐ Component Type Component Type ☐ Other (e.g. NDT) Specify

Certification Privileges: Yes ☐ /No ☐

☐ Specialised Services — Speciality (NDT, composites, welding etc):

☐ Skilled personnel — Speciality (sheet metal, structures, wireman, upholstery, etc):

☐ Ground equipment operation

☐ Quality control ☐ Quality assurance ☐ Training

Total number of check boxes ticked:

Details of employment

Training received from 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

Sample Only

AMC 145.A.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 145.A.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 European Standard EN 4179, dependent upon the non-destructive testing function to be carried out.

3 Notwithstanding the fact that Level 3 personnel may be qualified via EN 4179 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 EN 4179, to a national aerospace non-destructive testing (NDT) board, all examinations should be conducted by personnel or organisations under the general control of such a board. In the absence of a national aerospace NDT board, the aerospace NDT board of another State should be used, as defined by the Kuwait DGCA.

5 Particular non-destructive test means any one or more of the following; Dye penetrant, magnetic particle, eddy current, ultrasonic and radiographic methods including X ray and gamma ray.

6. It should be noted that new methods are and will be developed, such as, but not limited to thermography and shearography, which are not specifically addressed by EN 4179. Until the time this agreed standard is established, such methods should be carried out in accordance with the particular equipment manufacturer's recommendations including any training and examination process to ensure competence of the personnel in the process.

7 Any maintenance organisation approved under KCASR 8, Part-145 that carries out NDT should establish NDT specialist qualification procedures detailed in the exposition and accepted by the Kuwait DGCA.

8 Boroscoping and other techniques such as delaminating 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 Kuwait DGCA 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 KCASR 8 - Part 145 are not listed in Appendix II under class rating D1.

9 The referenced standards, methods, training and procedures should be specified in the maintenance organisation exposition.

10 Any such personnel who intend to carry out and/or control a non- destructive test for which they were not qualified prior to the effective date of KCASR 8 - Part 145

should qualify for such non-destructive test in accordance with EN4179 or any other equivalent standard acceptable to the Kuwait DGCA.

11 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.

AMC 145.A.30(g) Personnel Requirements

1 For the purposes of KCASR 1, Part 66, 66.A.20(a)(1) and 66.A.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 aircraft maintenance programme. For aircraft maintenance programmes that do not specify a weekly check, Kuwait DGCA 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 KCASR 1, Part 66, 66.A.20(a)(1) and 66.A.20(a)(3)(ii) personnel, for the purpose of these personnel issuing an aircraft certificate of release to service as specified in 145.A.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 refitment 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 but excluding 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 Kuwait DGCA 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) Any other task agreed by Kuwait DGCA as a simple task for a particular aircraft type. This may include defect deferment when all the following conditions are met:

(1) There is no need for troubleshooting; and

(2) The task is in the MEL; and

(3) The maintenance action required by the MEL is agreed by the Kuwait DGCA to be simple.

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

(s) removal and installation of Helicopter Emergency Medical Service (HEMS) simple internal medical equipment.

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

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

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

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

(x) 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, B3, as appropriate, in the case of aircraft line maintenance does not imply that the organisation must have B1, B2 and 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 Kuwait DGCA may accept that in the case of aircraft line maintenance an organisation has only B1, B2 or B3 certifying staff, as appropriate, provided that Kuwait DGCA is satisfied that the scope of work, as defined in the Maintenance Organisation Exposition, does not need the availability of all B1, B2 and 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.A.30(h) Personnel requirements

In accordance with 145.A.30(h) and 145.A.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.A.30(j) (4) Personnel Requirements

1. For the issue of a limited certification authorization the commander or flight engineer should hold either a valid air transport pilot licence (ATPL), commercial pilot licence (CPL) or flight engineer (F/EL) licence in accordance with KCASRs, on the aircraft type. In addition the limited certification authorization is subject to the maintenance organisation exposition containing procedures to address the personnel requirements of 145.A.30 (e) and associated AMC and guidance material.

   Such procedures 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 KCASR 8 - Part 145

   The above procedures should be specified in the maintenance organisation exposition and be accepted by the Kuwait DGCA.

2. 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 refitment 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 Kuwait DGCA.

3. Holders of valid Kuwait DGCA Flight Engineers licence on the aircraft type may only exercise this limited certification authorization privilege when performing the duties of a flight engineer.

   In addition to paragraph 2 (a) to (e) above 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 Kuwait DGCA as a simple task.

(k) Re-setting of tripped circuit breakers under the guidance of maintenance control.

(l) Any other task agreed by the Kuwait DGCA as a simple task for for a particular aircraft type.

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

GM 145.A.30(j) (4) Personnel Requirements (Flight Crew)

1. For the holder of an ATPL or CPL issued in accordance with KCASRs, the theoretical knowledge and examination subjects include the following:

(a) Air law

(b) Airframe/systems/powerplant

(c) Instruments/electronics

(d) Mass and balance

(e) Performance

(f) Flight planning and monitoring

(g) Human performance and limitations

(h) Meteorology

(i) General navigation

(j) Radio Navigation

(k) Operational Procedures

(l) Principles of Flight

(m) VFR Communications

(n) IFR Communications

2. For the holder of a KCASRs Flight Engineers Licenses (FEL), details on the theoretical and practical knowledge shall include:

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) Powerplant and emergency equipment

(d) Flight instruments and automatic flight control systems

Practical skills training provided by an organisation approved under KCASR 8 - Part 145 is given which includes 35 days practical experience in the following subjects:

- Fuselage and flight controls
- Engines
- Instruments
- Landing gear and brakes
- Cabin/cockpit/emergency equipment
- De-icing/anti-icing related maintenance activities
- Ground handling and servicing
- 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.

AMC 145.A.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 authorization should only be considered for issue by the quality department of the contracted organisation 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 issuance of a one-off authorization.
3. An one-off authorization 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.A.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 on 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 with 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 KCASR 8 - Part 145 maintenance facility.

AMC 145.A.30(j) (5)(ii) Personnel Requirements

This paragraph addresses staff not employed by the maintenance organisation who meet the requirements of 145.A.30(j)(5)**.** In addition to the items listed in AMC 145.A.30(j)(5)(i), paragraph 1, 2(a), (b) and (c) and 3 the quality department of the organisation may issue such one off authorization providing full qualification details relating to the proposed certifying personnel are verified by the quality department and made available at the location.

AMC 145.A.35(a) Certifying staff and support staff

1. Holding a KCASR 1, Part-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 to assess 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*" means that the person has received training and has been successfully assessed on:

- the type of aircraft or component;
- the differences on:
  - the particular model/variant;
  - the particular configuration.

The organisation should specifically ensure that the individual competencies have been established with regard to:

(a) 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.

(b) appropriate attitude towards safety and observance of procedures.

(c) 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:

(a) in-depth troubleshooting;

(b) very specific adjustment or test procedures;

(c) rigging;

(d) engine run-up, starting and operating the engines, checking engine performance characteristics, normal and emergency engine operation, associated safety precautions and procedures;

(e) extensive structural/system inspection and repair;

(f) 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 Kuwait DGCA (item 3.4 of the MOE, as described in AMC 145.A.70(a)).

5. The organisation should hold copies of all documents that attest the competence and recent experience for the period described in 145.A.35(j).

Additional information is provided in AMC 66.A.20(b)3.

AMC 145.A.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 KCASR 8 - Part 145 and KCASR 1, Part-66. In granting the certification authorisation the maintenance organisation approved under KCASR 8 - Part 145 needs to be satisfied that the person holds a valid KCASR 1, Part-66 aircraft maintenance licence or equivalent and may need to confirm such fact with the competent authority of the accepted State that issued the licence**.**

AMC 145.A.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.A.20(b)2 are applicable.

AMC 145.A.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 KCASR 8 - Part 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.A.35(d) and may be split into a number of separate elements.

   145.A.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 KCASR 1, Part-147 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 KCASR 1, Part 147 when such details may be specified under the approval and cross referenced in the maintenance organisation exposition.

AMC 145.A.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.A.35(j).

AMC 145.A.35(f) Certifying staff and support staff

As stated in 145.A.35(f), except where any of the unforeseen cases of 145.A.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.A.30(e), as applicable.

AMC 145.A.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 staff:
   (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 Kuwait DGCA is an authorised person when investigating the records system for initial and continued approval or when the Kuwait DGCA has cause to doubt the competence of a particular person.

AMC 145.A.35(n) Certifying staff and support staff

1. It is the responsibility of the KCASR 8 - Part 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 KCASR 1, Part-147 organisation or by a KCASR 8 Section 4 – 145 organisation different from the one issuing the authorisation.
2. "*Appropriately approved in accordance with KCASR 1, Part-147)*" means an organisation holding an approval to provide category A task training for the corresponding aircraft type.

3. "*Appropriately approved in accordance with KCASR 8 - Part 145)*" means an organisation holding a maintenance organisation approval for the corresponding aircraft type.

AMC 145.A.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.A.20(a)(3)(ii) can only be granted by the KCASR 8 - Part 145 approved organisation where the licence holder is employed/contracted after meeting all the requirements specified in 145.A.35(o). This privilege cannot be transferred to another KCASR 8 - Part 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.

   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.A.20(b)2 to the one already held.
4. 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.

AMC 145.A.40(a) Equipment, tools and material

Once the applicant for approval has determined the intended scope of approval for consideration by the Kuwait DGCA, 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.A.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 the next 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 recognised standard means those standards established or published by an official body whether having legal personality or not, which are widely recognised by the air transport sector as constituting good practice.

AMC 145.A.42(a) Acceptance of Components

1. An equivalent document to an DGCA Form 1 may be:
   (a) a release document issued by an organisation under the terms of a bilateral agreement signed by the Kuwait DGCA;
   (b) an EASA form 1 issued by a Part 21 or Part-145 organisation approved by an EASA Member State;
   (c) a JAA Form 1 issued prior to 28 November 2004 by a JAR 145 organisation approved by a JAA full member state;
   (d) FAA Form 8130-3
   (e) TCCA Form One (Transport Canada), (Previous 24-0078)
   (f) Form issued by Type Certificate holder under Authority of the State Of Design
   (g) Any other equivalent certification acceptable to the Kuwait DGCA
2. For acceptance of standard parts, raw material and consumable material, refer to KCASR 8, Part M AMC M.A.501(c) and Part M AMC M.A.501 (d).

AMC 145.A.42(b) Acceptance of Components

The DGCA Form 1 identifies the eligibility and status of an aircraft component. Block12 "Remarks" on the DGCA Form 1 in some cases contains 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. This may be accomplished by reference to the manufacturer's parts catalogue or other approved data (i.e. Service Bulletin). Care should also be exercised in ensuring compliance with applicable airworthiness directives and the status of any life limited parts fitted to the aircraft component as well as Critical Design Configuration Control Limitations (CDCCL).

AMC 145.A.42(c) Acceptance of Components

1. The agreement by the Kuwait DGCA 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 Kuwait DGCA or the type certificate (TC) holder or EASA Part-21 design organisation approval holder or supplemental type certificate (STC) holder;

4. Items fabricated by an organisation approved under KCASR 8 - Part 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 DGCA 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.

5. Fabrication of parts, modification kits etc. for onward supply and/or sale may not be conducted by an organisation approved under KCASR 8 - Part 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 KCASR 8 - Part 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 organization, the organisation cannot fabricate the part unless the TC/STC-holder gives an approved alternative.

7. Examples of fabrication under the scope of an KCASR 8 - Part 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 Kuwait DGCA.

   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 Kuwait DGCA.*

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 Kuwait DGCA 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.A.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.

AMC 145.A.45(b) Maintenance Data

1. Except as specified in sub-paragraph 5, each maintenance organisation approved under KCASR 8 - Part 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 new requirement, procedure or directive and all applicable Kuwait DGCA airworthiness directives plus any non-national airworthiness directive supplied by a contracted non-Kuwaiti operator or customer as well as Critical Design Configuration Control Limitations.

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.A.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 Part-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 KCASR 8 - Part 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.A.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 by the authority of the state of design and accepted in accordance with KCASR 8, Part 21, Subpart D.*

AMC 145.A.45(e) Maintenance Data

1. The maintenance organisation should:

   (a) transcribe accurately the maintenance data onto such work cards or worksheets; or

   (b) make precise reference to the particular maintenance tasks or 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 maintenance, engine workshops, mechanical workshops and avionic workshops. Therefore, for example engine workshops should have a common system throughout such engine workshops that may be different to that in 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 task, it may be necessary to use supplementary work cards or worksheets to indicate what was actually accomplished by each individual person.

AMC 145.A.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.A.45(g) Maintenance Data

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 limitations and Airworthiness Limitation Items (ALI), etc.

AMC 145.A.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 KCASR 8 - Part 145, the production planning function includes two complementary elements:
   (a) 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.
   (b) during maintenance work, organizing 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:
   (a) logistics,
   (b) inventory control,
   (c) square meters of accommodation,
   (d) man-hours estimation,
   (e) man-hours availability,
   (f) preparation of work,
   (g) hangar availability,
   (h) environmental conditions (access, lighting standards and cleanliness),
   (i) co-ordination with internal and external suppliers, etc.
   (j) scheduling of safety-critical tasks during periods when staff are likely to be most alert.

AMC 145.A.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.

AMC 145.A.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:

(a) The outgoing person's ability to understand and communicate the important elements of the job or task being passed over to the incoming person.

(b) The incoming person's ability to understand and assimilate the information being provided by the outgoing person.

(c) 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.

AMC1 145.A.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.A.48(b) Performance of maintenance

INDEPENDENT INSPECTION

Independent inspection is one possible error-capturing method.

(a) What is an independent inspection

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.A.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.A.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.A.48(b).

GM 145.A.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 by different persons of the same task in different systems;

— duplicate inspection or re-inspection procedures.

GM 145.A.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 IV to AMC 145.A.35.

AMC 145.A.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.A.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 KCASR 8 - Part 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 KCASR 8 Section 4 – 145 approval number.

2. It is acceptable to use an alternate abbreviated certificate of release of service consisting of the following statement "KCASR 8 - Part 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 (STC) holder's or operator's instruction 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 summarise the maintenance as long as there is an unique cross-reference to the work-package containing full details of maintenance carried out. Dimensional information should be retained in the work-pack record.

AMC No 1 145.A.50(d) Certification of Maintenance

The purpose of the certificate 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 a Kuwait DGCA 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 by the particular Kuwait DGCA within the scope of the approval.

The certificate may be used as a rotable tag by utilising 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 Part-145 and the item needs a certificate for the previous maintenance process carried out for the next maintenance organisation approved under KCASR 8 - Part 145 to accept the item for subsequent maintenance processes. In such a case, a clear statement of limitation should be endorsed in Block 12.

AMC No 2 145.A.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.

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

2. In the case of the need/issue of an DGCA Form 1 for components in storage prior to KCASR 8 - Part 145 and not released on an DGCA Form 1 or equivalent in accordance with 145.A.42 (a) or removed serviceable from a serviceable aircraft or an aircraft which have been withdrawn from service the following applies.

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

   (a) Maintained before KCASR 8 - Part 145 became effective.

   (b) Used on an aircraft and removed in a serviceable condition. Examples include leased and loaned aircraft components.

   (c) 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.

   (d) Maintained by an unapproved organisation.

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

2.3. For the purposes of this AMC No 2 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. DGCA 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:

   (a) When the last maintenance was carried out and by whom.

   (b) 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.

   (c) 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.

   (d) Detail of life used for service life limited parts being any combination of fatigue, overhaul or storage life.

   (e) 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 DGCA Form 1

2.5. New/Unused aircraft Components

(a) Any unused aircraft component in storage without an Authorised release certificate (JAA Form 1, EASA Form 1, FAA 8130-3 or equivalent) that was manufactured by an organisation acceptable to the Kuwait DGCA, under KCASR 8, Part 21 Subpart K at the time, may be issued an DGCA Form 1 by an appropriately rated maintenance organisation approved under KCASR 8 - Part 145. The DGCA Form 1 should be issued in accordance with the following subparagraphs which should be included in a procedure within the maintenance organisation manual.

Note 1: *It should be understood that the release of a stored but unused aircraft component in accordance with this paragraph represents a maintenance release under KCASR 8 - Part 145 and not a production release. It is not intended to bypass the production release procedure agreed by other States for parts or subassemblies intended for fitment to their own production line.*

(1) 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.

(2) 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.

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

(b) If it is not possible to establish satisfactory compliance with all applicable conditions specified in subparagraph 2.5 (a) (1) to (3) inclusive the aircraft 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 manufacturers maintenance instructions to establish satisfactory condition and, if relevant, all seals, lubricants and life limited parts replaced. On satisfactory completion after reassembly an DGCA Form 1 may be issued stating what was carried out and the reference of the manufacturer's maintenance data included.

2.6. Used aircraft components removed from a serviceable aircraft.

(a) Serviceable aircraft components removed from a Kuwaiti registered aircraft may be issued with an DGCA Form 1 by an appropriately rated organisation subject to compliance with this subparagraph.

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

(2) 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.

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

(4) 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 DGCA 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.

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

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

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

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

Subject to satisfactory compliance with this subparagraph 2.6 (a) an DGCA 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.

(b) Serviceable aircraft components removed from a non-Kuwaiti registered aircraft may only be issued an DGCA Form 1 if the components are leased or loaned from the maintenance organisation approved under Part-145 who retains control of the airworthiness status of the components. An DGCA 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.

2.7. Used aircraft components removed from an aircraft withdrawn from service.

Serviceable aircraft components removed from a State of Kuwait registered aircraft withdrawn from service may be issued an DGCA Form 1 by a maintenance organisation approved under KCASR 8 - Part 145 subject to compliance with this sub paragraph.

(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 KCASR 8 - Part 145 employing procedures approved by the Kuwait DGCA.

(b) To be eligible for installation, components removed from such aircraft may be issued with an DGCA Form 1 by an appropriately rated organisation following a satisfactory assessment.

(c) 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.

(d) Irrespective of whether the aircraft holds a certificate of airworthiness or not, the organisation responsible for certifying any removed component should satisfy itself that the manner in which the components were removed and stored are compatible with the standards required by KCASR 8 - Part 145.

(e) 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.

(f) 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.

(g) 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.

(h) Suitable 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 manufacturer's recommendations.

2.8. Used aircraft components maintained by organisations not approved in accordance with KCASR 8 - Part 145. For used components maintained by a maintenance organisation unapproved under KCASR 8 - Part 145, due care should be exercised before acceptance of such components. In such cases an appropriately rated maintenance organisation approved under KCASR 8 - Part 145 should establish satisfactory conditions by:

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

(b) replacing of 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.A.50.

2.9. Used aircraft components removed from an aircraft involved in an accident or incident. Such components should only be issued with an DGCA Form 1 when processed in accordance with paragraph 2.7 and a specific work order including all additional necessary tests and inspections made 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.

GM 145.A.50(d) DGCA Form 1 Block 12 'Remarks'

1. Examples of data to be entered in this block as appropriate:

   (a) Maintenance documentation used, including the revision status, for all work performed and not limited to the entry made in block 11. A statement such as "in accordance with the CMM" is not acceptable.

   (b) NDT methods with appropriate documentation used when relevant.

   (c) Compliance with airworthiness directives or service bulletins.

   (d) Repairs carried out.

   (e) Modifications carried out.

   (f) Replacement parts installed.

   (g) Life-limited parts status.

   (h) Shelf life limitations.

   (i) Deviations from the customer work order.

   (j) Release statements to satisfy a foreign Civil Aviation Authority maintenance requirement.

   (k) Information needed to support shipment with shortages or re-assembly after delivery.

   (l) References to aid traceability, such as batch numbers.

AMC 145.A.50(e) Certification of Maintenance

1. Being unable to establish full compliance with sub-paragraph Part-145.A.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.A.50 (e) requires such operator to be informed in the case where full compliance with 145.A.50 (a) cannot be achieved within the operator's 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 the competent authority of the State of Registry or State of Operator, as appropriate. In case of doubt concerning such a decision of the operator, the approved maintenance organisation should inform the competent authority of the State of Registry or State of Operator, as appropriate of such doubt, before issuing the certificate of release to service. This will allow the competent authority of the State of Registry or the State of the operator as appropriate to investigate the matter.*

3. The procedure should draw attention to the fact that 145.A.50 (a) does not normally permit the issue of a certificate of release to service in the case of noncompliance 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.A.30 (b) should be kept informed in writing of such possible non-compliance situations and this should be included in the procedure.

AMC 145.A.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 authorization reference.
2. Compliance with all other KCASR 8 - Part 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.

GM 145.A.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 serialised 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.A.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 Kuwait DGCA 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. 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.

AMC 145.A.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.

AMC 145.A.60(a) Occurrence reporting

EASA standard AMC 20-8 General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances provides further guidance on occurrence reporting.

GM 145.A.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.

AMC 145.A.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 co-operating 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.A.60(c) Occurrence Reporting

Each report should contain at least the following information:

(a) Organisation name and approval reference.

(b) Information necessary to identify the subject aircraft and / or component.

(c) Date and time relative to any life or overhaul limitation in terms of flying hours/cycles/landings etc. as appropriate.

(d) Details of the condition as required by 145.A.60 (b).

(e) Any other relevant information found during the evaluation or rectification of the condition.

AMC 145.A.65(a) Safety and Quality Policy, Maintenance Procedures and Quality System

1. The safety and quality policy should as a minimum include a statement committing the organisation to:
   (a) Recognise safety as a prime consideration at all times;
   (b) Apply Human factors principles;
   (c) Encourage personnel to report maintenance related errors/incidents;
   (d) Recognise that compliance with procedures, quality standards, safety standards and regulations is the duty of all personnel;
   (e) Recognise the need for all personnel to cooperate with the quality auditors.

AMC 145.A.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.A.65(b)(2) Safety and Quality Policy, Maintenance Procedures and Quality System

Specialised services include any specialised activity, such as, but not limited to non-destructive testing requiring particular skills and/or qualification. 145.A.30 (f) covers the qualification of personnel but, in addition, there is a need to establish maintenance procedures that cover the control of any specialised process.

AMC 145.A.65(b)(3) Safety and Quality Policy, Maintenance Procedures and Quality System

1. The purpose of this procedure is to minimise the rare possibility of an error being repeated whereby the identical aircraft components are not reassembled thereby compromising more than one system. One example is the remote possibility of failure to reinstall engine gearbox access covers or oil filler caps on all engines of a multi-engined aircraft resulting in major oil loss from all engines.

   Another example is the case of removal and refitment of oil filler caps, which should require a re-inspection of all oil filler caps after the last oil filler cap, has supposedly been refitted.
2. Procedures should be established to detect and rectify maintenance errors that could, as minimum, result in a failure, malfunction, or defect endangering the safe operation of the aircraft if not performed properly. The procedure should identify the method for capturing errors, and the maintenance tasks or processes concerned.

In order to determine the work items to be considered, the following maintenance tasks should primarily be reviewed to assess their impact on safety:

(a) Installation, rigging and adjustments of flight controls,

(b) Installation of aircraft engines, propellers and rotors,

(c) Overhaul, calibration or rigging of components such as engines, propellers, transmissions and gearboxes, but additional information should also be processed, such as:

(d) Previous experiences of maintenance errors, depending on the consequence of the failure,

(e) Information arising from the 'occurrence reporting system' required by 145.A.60,

(f) Kuwait DGCA requirements for error capturing, if applicable.

3. In order to prevent omissions, every maintenance task or group of tasks should be signed-off. To ensure the task or group of tasks is completed; it should only be signed-off after completion. Work by unauthorized personnel (i.e. temporary staff, trainee) should be checked by authorized personnel before they sign-off. The grouping of tasks for the purpose of signing-off should allow critical steps to be clearly identified

Note: *A "sign-off" is a statement by the competent person performing or supervising the work, 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 the release to service of the aircraft. "Authorized personnel" means a personnel formally authorized by the maintenance organisation approved under Part-145 to sign-off tasks. "Authorized personnel" are not necessarily "certifying staff".*

4. The maintenance organisation should ensure that when carrying out a modification, repair or maintenance, Critical Design Configuration Control Limitations are not compromised; this will require the development of appropriate procedures where necessary by the maintenance organisation. The maintenance organisation should pay particular attention to possible adverse effects of any wiring change to the aircraft, even a change not specifically associated with the fuel tank system. For example, it should be common practice to identify segregation fuel gauging system wiring as a Critical Design Configuration Control Limitation (CDCCL).

Maintenance organisations can prevent adverse effects associated with wiring changes by standardizing maintenance practices through training, rather than by periodic inspection. Training should be provided to end 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 Critical Design Configuration Control Limitation. Guidance is provided for training to maintenance organisation personnel in an Appendix IV of AMC to Part-145.A.30 (e) and 145B.10 (3).

The maintenance of ignition prevention features is necessary for the inherent safety and reliability of an aircraft's fuel tank system. The aircraft cannot be operated indefinitely with the failure of an ignition prevention feature. The failures will have a direct adverse effect on operational safety. It could prevent the continued safe flight and landing of the aircraft or cause serious or fatal injury to occupants. The fuel system review required will identify ignition prevention features of the design. The failure of any of these features may not immediately result in an unsafe condition, but it may warrant certain maintenance to support continued airworthiness.

AMC 145.A.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.A.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 KCASR 8 - Part 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.

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 2 approval class rating as specified in the approval schedule issued to the particular organisation.

   It therefore follows for example that a maintenance organisation approved under KCASR 8 - Part 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.A.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.A.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 Kuwait DGCA may agree to increase any of the audit time periods specified in this AMC 145.A.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 KCASR 8 - Part 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 KCASR 8 - Part 145, being an organisation with less than about 500 maintenance staff, it is acceptable to use competent personnel 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 competent person approved by the Kuwait DGCA.

GM 145.A.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.A.65 (c) 1. There are any numbers 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.A.25		Yes	Yes	Yes	Yes
145.A.30		Yes	Yes	Yes	Yes
145.A.35		Yes	Yes	Yes	Yes
145.A.40		Yes	Yes	Yes	Yes

PARA	COMMENT	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.A.42		Yes	Yes	Yes	Yes
145.A.45		Yes	Yes	Yes	Yes
145.A.47		Yes	Yes	Yes	Yes
145.A.50		Yes	Yes	Yes	Yes
145.A.55		Yes	Yes	Yes	Yes
145.A.60		Yes	Yes	Yes	Yes
145.A.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	Yes	Yes
2.13	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	No	No	No
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	No
3.12	MOE	Yes	Yes	No	No
3.13	MOE	Yes	Yes	Yes	Yes
3.14	MOE	Yes	Yes	Yes	Yes
145.A.70		Yes	Yes	Yes	Yes
145.A.75		Yes	Yes	Yes	Yes
145.A.80		Yes	Yes	Yes	Yes
145.A.85		Yes	Yes	Yes	Yes

PARA	COMMENT	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.A.95		If appl	If appl	If appl	If appl

Note1: *"if appl" means if applicable or relevant.*

Note2: *In the line station case all line stations should be audited at the frequency agreed by the Kuwait DGCA within the limits of AMC 145.A.65 (c) (1).*

AMC 145.A.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 KCASR 8 - Part 145.

3. The independent quality audit reports referenced in AMC 145.A.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.A.65 (c) (2) to rectify findings and inform the quality department or nominated quality auditor of such rectification.

4. 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.

5. 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 AMC 145.A.65 (c) (1) sub-paragraph 9 audit time periods, whichever is the longer.

AMC 145.A.70(a) Maintenance Organisation Exposition

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

The information specified in 145.A.70 sub -paragraphs (6) and (12) to (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.

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 the subject matter can be found in the exposition.

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

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

PART - 0 - GENERAL ORGANISATION

This section is reserved for those maintenance organisations approved under Part-145 who are also operators within the territories of the State of Kuwait.

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 Kuwait DGCA 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 programme compliance.

2.11 Airworthiness directives procedure.

2.12 Optional modification procedure.

2.13 Maintenance documentation in use and completion of same.

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 Kuwait DGCA/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 Control of critical 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 ambiguities, to the type certificate holder

2.28 Production planning procedures

PART – L 2 - ADDITIONAL 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 control of critical 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.

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 specialised 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 training as per Section 6 of Appendix III to KCASR 1, Part-66 (limited to the case where Kuwait DGCA for the KCASR 8, Part 145 approval and for the KCASR 1, Part 66 licence is the same).

3.16 Procedure for the issue of a recommendation to the Kuwait DGCA for the issue of a KCASR 1, Part-66 licence in accordance with 66.B.105 (limited to the case where Kuwait DGCA for the KCASR 8, Part 145 approval and for the KCASR 1, Part-66 licence is the same).

PART – 4 - CONTRACTED OPERATORS

4.1 Contracting operators.

4.2 Operator procedures and paperwork.

4.3 Operator record completion.

PART – 5 - SAMPLE OF DOCUMENTS

5.1 Sample of documents.

5.2 List of Sub-contractors as per 145.A.75 (b).

5.3 List of Line maintenance locations as per 145.A.75 (d).

5.4 List of contracted organisations as per 145.A.70 (a) (16).

PART – 6 - OPERATORS MAINTENANCE PROCEDURES

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

PART – 7 - INTENTIONALLY LEFT BLANK

This section is reserved for those KCASR 8 - Part 145 approved maintenance organisations who are also approved as a foreign maintenance organisation. The content of this Part reflects the difference between KCASR 8 - Part 145 and the foreign requirements and will change over time as harmonization and experience with the foreign National Authority progresses.

PART – 8 - INTENTIONALLY LEFT BLANK

This section is reserved for those KCASR 8 - Part 145 approved maintenance organisations who are also approved as a foreign maintenance organisation. The content of this Part reflects the difference between KCASR 8 - Part 145 and the foreign requirements and will change over time as harmonization and experience with the foreign National Authority progresses.

GM 145.A.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 KCASR 8 - Part 145 which is a pre-requisite to obtaining and retaining an approved maintenance organisation certificate.
3. 145.A.70 (a) (1) to (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.A.30 (b) who should be reasonably familiar with its contents. 145.A.70 (a) (6) list of certifying staff may be produced as a separate document.
4. 145.A.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.
5. Personnel are expected to be familiar with those parts of the manuals that are relevant to the maintenance work they carry out.
6. The organisation should specify in the MOE who should amend the manual particularly in the case where there are several parts.
7. The quality manager should be responsible for monitoring the amendment of the MOE, unless otherwise agreed by the Kuwait DGCA, including associated procedures manuals and submission of the proposed amendments to the Kuwait DGCA. However the Kuwait DGCA 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 Kuwait DGCA.
8. 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) Contracted operator procedures and paperwork.

9. The accountable manager's exposition statement as specified under 145.A.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 defines the organisation and procedures upon which the KCASR 8 - Part 145 approval is based as required by - 145.A.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 Part-145 approval.

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

It is understood that the (Kuwait DGCA) will approve this organisation whilst the (Kuwait DGCA) is satisfied that the procedures are being followed and work standards maintained. It is further understood that the (Kuwait DGCA) reserves the right to suspend, limit or revoke the approval of the organisation if the (Kuwait DGCA) 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 KCASR 8, Part-145 approval.

10. When an organisation is approved against any other Part containing a requirement for an exposition, a supplement covering the differences will suffice to meet the requirements except that the supplement should have an index showing where those parts missing from the supplement are covered.

AMC 145.A.75(b) Privileges of the Organisation

1. Working under the quality system of an organisation appropriately approved under KCASR 8 - Part 145 (sub-contracting) refers to the case of one organisation, not itself appropriately approved to Part 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 Part-145.

To be appropriately 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: *For those organisations approved under KCASR 8, Part-145 that are also certificated by the FAA under FAR Part-145 it should be noted that FAR Part-145 is more restrictive in respect of maintenance activities that can be contracted or sub-contracted to another maintenance organisation. It is therefore recommended that any listing of contracted or sub-contracted maintenance organisations should identify which meet the KCASR 8, Part-145 criteria and which meet the FAR Part-145 criteria.*

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.

3. Fundamentals of Sub-Contracting Under KCASR 8 - Part 145

3.1. The fundamental reasons for allowing an organisation approved under KCASR 8 - Part 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 Kuwait DGCA in such cases.

(b) To permit the acceptance of aircraft maintenance up to but not including a base maintenance check as specified in 145.A.75 (b) by organisations not appropriately approved under KCASR 8 - Part 145 when it is unrealistic (as determined by the Kuwait DGCA) to expect direct approval by the Kuwait DGCA.

(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.A.75 (b) by organisations not appropriately approved under KCASR 8 - Part 145 when it is unrealistic (as determined by the Kuwait DGCA) to expect direct approval by the Kuwait DGCA.

3.2. When maintenance is carried out under the sub-contract control system it means that for the duration of such maintenance, the KCASR 8 - Part 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 KCASR 8 - Part 145 requirements for the duration of that maintenance and it remains the organisation's responsibility to ensure such requirements are satisfied.

3.3. 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.

3.4. 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 authorize the use of such subcontractors, the Kuwait DGCA will need to be satisfied that the organisation has the necessary expertise and procedures to control such sub- contractors.

3.5. 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 KCASR 8 - Part 145.

3.6. Authorization to sub-contract is indicated by the Kuwait DGCA accepting the maintenance organisation exposition containing a specific procedure on the control of sub-contractors.

4. Principal KCASR 8 - Part 145 Procedures for the Control of Sub-Contractors not Approved Under KCASR 8 - Part 145.

4.1. A pre audit procedure should be established whereby the maintenance organisations' subcontract control section, which may also be the 145.A.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 KCASR 8 - Part 145.

4.2. The organisation approved under KCASR 8, Part-145 needs to assess to what extent it will use the sub-contractor’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 KCASR 8 - Part 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 KCASR 8 - Part 145.

4.3. Unless the sub-contracted maintenance work can be fully inspected on receipt by the organisation approved under KCASR 8 - Part 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 authorize the sub-contractor's staff.

4.4. The certificate of release to service may be issued either at the sub- contractor or at the organisation facility by staff issued a certification authorization in accordance with - 145.A.30 as appropriate, by the organisation approved under KCASR 8 - Part 145. Such staff would normally come from the organisation approved under KCASR 8, Part-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 Kuwait DGCA via the maintenance organisation exposition. The certificate of release to service and the DGCA Form 1 will always be issued under the maintenance organisation approval reference.

4.5. 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 KCASR 8 - Part 145 approved maintenance organisation's requirements.

4.6. The KCASR 8 - Part 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 sub-paragraph 4.1.

4.7. The contract between the KCASR 8 - Part 145 approved maintenance organisation and the sub-contractor should contain a provision for the Kuwait DGCA staff to have right of access to the sub-contractor.

AMC 145.A.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 Kuwait DGCA 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.

Section B - Procedure for Kuwait DGCA

AMC 145.B.10(a) The Authority - General

1. In deciding upon the required organisational structure, the Kuwait DGCA should review the number of certificates to be issued, the number and size of potential KCASR 8 - Part 145 approved maintenance organisations, as well as the level of civil aviation activity, number and complexity of aircraft and the size of the aviation industry.

2. The Kuwait DGCA should retain effective control of important surveillance functions and not delegate them in such a way that Part-145 organisations, in effect, regulate themselves in airworthiness matters.

3. The set-up of the organisational structure should ensure that the various tasks and obligations of the Kuwait DGCA are not relying on individuals.

   That means that a continuing and undisturbed fulfilment of these tasks and obligations of the Kuwait DGCA should also be guaranteed in case of illness, accident or leave of individual employees.

AMC 145.B.10(c) The Authority - Qualification and Training

1. Kuwait DGCA Inspectors should have:

1.1. practical experience and expertise in the application of aviation safety standards and safe operating practices;

1.2. comprehensive knowledge of:

   (a) relevant parts of implementing rules, certification specifications and guidance material;

   (b) the Kuwait DGCA's procedures;

   (c) the rights and obligations of an Inspector;

   (d) quality systems;

   (e) continuing airworthiness management;

   (f) operational procedures when affecting the continuing airworthiness management of the aircraft or the maintenance.

1.3. training on auditing techniques.

1.4. five years relevant work experience to be allowed to work as an inspector independently. This may include experience gained during training to obtain the 1.5 qualification.

1.5. a relevant engineering degree or an aircraft maintenance technician qualification with additional education. '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.

1.6. knowledge of maintenance standards, including Fuel Tank Safety (FTS) training as described in Appendix IV to AMC to 145.A.30 (e) and 145.B.10 (3).

2. In addition to technical competency, inspectors should have a high degree of integrity, be impartial in carrying out their tasks, be tactful, and have a good understanding of human nature.

3. A programme for continuation training should be developed that ensures that the inspectors remain competent to perform their allocated tasks.

AMC 145.B.10(d) The Authority - Procedures

The documented procedures should contain the following information:

(a) Recognition of the Kuwait DGCA as the competent authority.

(b) The title(s) and name(s) of the manager(s) of the Kuwait DGCA and their duties and responsibilities.

(c) Organisation chart(s) showing associated chains of responsibility of the senior persons.

(d) A procedure defining the qualifications for staff together with a list of staff authorized to sign certificates.

(e) A general description of the facilities.

(f) Procedures specifying how the Kuwait DGCA ensure(s) compliance with KCASR 8 - Part 145.

AMC 145.B.20(a) Initial Approval

1. Formally indicated by the Kuwait DGCA in writing means that the DGCA Form 4 should be used for this activity. With the exception of the accountable manager, an DGCA Form 4 should be completed for each person nominated to hold a position as required by 145.A.30 (b).
2. Formal indication of acceptance should be by use of the DGCA Form 4 or in the case of the Accountable Manager via approval of the Maintenance Organisation Exposition containing the Accountable Managers commitment statement.
3. The Kuwait DGCA may reject an accountable manager where there is clear evidence that they previously held a senior position in any Kuwait DGCA/Part approved Organisation and abused that position by not complying with the particular Kuwait DGCA/Part requirements.

AMC 145.B.20(b) Initial Approval

Verification that the organisation complies with the exposition procedures should be established by the Kuwait DGCA approving the maintenance organisation exposition.

AMC 145.B.20(c) Initial Approval

1. The Kuwait DGCA should determine by whom, and how the audit shall be conducted. For example, for a large organisation, it will be necessary to determine whether one large team audit or a short series of small team audits or a long series of single man audits are most appropriate for the particular situation.
2. It is recommended that the audit is carried out on a product line type basis in that, for example, in the case of an organisation with Airbus A310 and A320 ratings, the audit be concentrated on one type only for a full compliance check and dependent upon the result, the second type may only require a sample check against those activities seen to be weak on compliance for the first type.
3. The Kuwait DGCA auditing inspector should always ensure that he/she is accompanied throughout the audit by a senior technical member of the organisation.

Normally this is the quality manager. The reason for being accompanied is to ensure the organisation is fully aware of any findings during the audit.

4. The Kuwait DGCA auditing Inspector should inform the senior technical member of the organisation at the end of the audit visit on all findings made during the audit.

AMC 145.B.20(e) Initial Approval

1. The audit report form should be the DGCA Form 6.
2. A quality review of the DGCA Form 6 audit report form should be carried out by a competent independent person nominated by the Kuwait DGCA. The review should take into account the relevant paragraphs of KCASR 8 - Part 145, the categorization of finding levels and the closure action taken. Satisfactory review of the audit form should be indicated by a signature on the audit form.

AMC 145.B.20(f) Initial Approval

1. The reports should include the date each finding was cleared together with reference to the Kuwait DGCA report or letter that confirmed the clearance.
2. There may be occasions when the Kuwait DGCA inspector may find situations in the applicant's organisation on which he/she is unsure about compliance. In this case, the organisation should be informed about possible non- compliance at the time and the fact that the situation will be reviewed within the Kuwait DGCA before a decision is made. If the decision is a finding of being in compliance then a verbal confirmation to the organisation will suffice.
3. Findings should be recorded on the audit report form with a provisional categorization as a level 1 or 2. Subsequent to the audit visit that identified the particular findings, the Kuwait DGCA should review the provisional finding levels, adjusting them if necessary and change the categorization from provisional to confirmed.
4. All findings should be confirmed in writing to the applicant organisation within 2 weeks of the audit visit.

AMC 145.B.25(a) Issue of Approval

1. Reserved.
2. The approval should be based only upon the organisational capability (including any associated sub-contractors) relative to KCASR 8 - Part 145 and not limited by reference type certificated products. For example, if the organisation is capable of maintaining within the limitation of KCASR 8 - Part 145 the Boeing 737-200 series aircraft the approval schedule should state A1 Boeing 737-200 series and not Boeing 737-2H6 which is particular airline designator for one of many -200 series.
3. The Kuwait DGCA shall indicate approval of the exposition in writing.

AMC 145.B.25(b) Issue of Approval

The validity of the KCASR 8 - Part 145 approval should be of unlimited duration.

AMC 145.B.25(c) Issue of Approval

The numeric sequence shall be unique to the particular approved maintenance organisation.

AMC 145.B.30(a) Continuation of an Approval

Credit may be claimed by the Kuwait DGCA inspector(s) for specific item audits completed during the preceding 23 month period subject to four conditions:

(a) the specific item audit should be the same as that required by Part-145 latest amendment, and

(b) there should be satisfactory evidence on record that such specific item audits were carried out and that all corrective actions have been taken, and

(c) the Kuwait DGCA inspector(s) should be satisfied that there is no reason to believe standards have deteriorated in respect of those specific item audits being granted a back credit, and

(d) the specific item audit being granted a back credit should be audited not later than 24 months after the last audit of the item.

AMC 145.B.30(b) Continuation of an Approval

1. Where the Kuwait DGCA has decided that a series of audit visits are necessary to arrive at a complete audit of an organisation, the program should indicate which aspects of the approval will be covered on each visit.
2. It is recommended that part of an audit concentrates on two ongoing aspects of the KCASR 8 - Part 145 approval, namely the organisations internal self-monitoring quality reports produced by the quality monitoring personnel to determine if the organisation is identifying and correcting its problems and secondly the number of concessions granted by the quality manager.
3. At the successful conclusion of the audit including approval of the exposition, an audit report form should be completed by the auditing inspector including all recorded findings, closure actions and recommendation. DGCA Form 6 shall be used for this activity.
4. The accountable manager should be seen at least once every 24 months to ensure he/she fully understands the significance of the approval.
5. In the case of line stations the Kuwait DGCA can adopt a sampling program based upon number of line stations and complexity.

AMC 145.B.35 Changes

The Kuwait DGCA should have adequate control over any changes to the management personnel specified in 145.A.30 (a) and (b) and such changes in personnel will require an amendment to the exposition.

AMC 145.B.35(a) Changes

The applicable part(s) of the DGCA Form 6 should be used for the changes to the KCASR 8 - Part 145 approval.

AMC 145.B.40 MOE Amendments

1. It is recommended that a simple exposition status sheet is maintained which contains information on when an amendment was received by the Kuwait DGCA and when it was approved.

2. The Kuwait DGCA may define some class of amendments to the exposition which may be incorporated without prior authority approval. In this case a procedure should be stated in the amendment section of the MOE.

   The exposition chapter dealing with scope of work/approval should not be subject to this procedure.

3. The organisation should submit each exposition amendment to the Kuwait DGCA whether it is an amendment for approval or a delegated approval amendment. Where the amendment requires approval by the Kuwait DGCA, the Kuwait DGCA when satisfied, should indicate its approval in writing. Where the amendment has been submitted under the delegated approval procedure the Kuwait DGCA should acknowledge receipt in writing.

AMC 145.B.50 (a) Findings

In practical terms a level 1 finding is where the Kuwait DGCA finds a significant non-compliance with KCASR 8 - Part 145.

The following are example level 1 findings:

- Failure to gain access to the organisation during normal operating hours of the organisation in accordance with 145.A.90(a) (2) after two written requests.
- If the calibration control of equipment as specified in 145.A.40(b) had previously broken down on a particular type product line such that most “calibrated” equipment was suspect from that time then that would be a level 1 finding.

Note: *A complete product line is defined as all the aircraft, engine or component of a particular type.*

For a level 1 finding it may be necessary for the Kuwait DGCA to ensure that further maintenance and re-certification of all affected products is accomplished, dependent upon the nature of the finding.

In practical terms where the Kuwait DGCA inspector finds a non-compliance with Part-145 against one product, it is deemed to be a level 2 finding.

The following are example level 2 findings:

- One time use of a component without any serviceable tag.
- The training documents of the certifying staff are not completed.

AMC 145.B.50 (b) Findings

1. Where the organisation has not implemented the necessary corrective action within that period it may be appropriate to grant a further period of up to three months, subject to the Kuwait DGCA notifying the accountable manager. In exceptional circumstances and subject to a realistic action plan being in place, the Kuwait DGCA may specifically vary the maximum 6 month corrective action period. However, in granting such a change the past performance of the organisation should be considered.
2. It may be necessary for the Kuwait DGCA to ensure that further maintenance and re-certification of all affected products is accomplished, dependent upon the nature of the finding.

AMC 145.B.55 Record-keeping

1. The record-keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organized in a consistent way throughout the Kuwait DGCA (chronological, alphabetical order, etc.).
2. All records containing sensitive data regarding applicants or organisations should be stored in a secure manner with controlled access to ensure confidentiality of this kind of data.
3. All computer hardware used to ensure data backup should be stored in a different location from that containing the working data in an environment that ensures they remain in good condition. When hardware or software changes take place special care should be taken to ensure that all necessary data continues to be accessible at least through the full period specified in 145.B.55.

AMC to KCASR 8 - Part 145 Appendix III Maintenance Organisation Approval referred to in KCASR 8 - Part 145

The following fields on page 2 “Maintenance Organisation Approval Schedule” of the maintenance organisation approval certificate (DGCA Form 3) should be completed as follows:

1. **Date of original issue:** It refers to the date of the original issue of the maintenance organisation exposition.
2. **Date of last revision approved:** It refers to the date of the last revision of the maintenance organisation exposition affecting the content of the certificate. Changes to the maintenance organisation exposition which do not affect the content of the certificate do not require the reissuance of the certificate.
3. **Revision No:** It refers to the revision No of the last revision of the maintenance organisation exposition affecting the content of the certificate. Changes to the maintenance organisation exposition which do not affect the content of the certificate do not require the reissuance of the certificate.

Appendix I (DGCA Form 4)

الطيران المدني
Civil Aviation

State of Kuwait

دولـة الكـويـت

Aviation Safety

DGCA FORM 4 APPLICATION
BIOGRAPHICAL DETAILS OF PERSONS NOMINATED BY DGCA APPROVED ORGANIZATION

Details of Management Personnel required to be accepted as specified in KCASR:

Part 145 ☐ Part M ☐ Part 147 ☐ AOC ☐

1. Name of Organization :
2. Approval Reference :
3. Name of Nominee :
4. Position for the DGCA Approval :
5. Title Within the Organization :
6. Email Address :
7. Contact Number :
8. Qualification Relevant to the Position :
9. Work Experience Relevant to the Position :
10. Signature : Date:

DGCA Use Only :

Name and Signature of Authorized DGCA staff member accepting this person :

Name : _____ Date : _____

Office : _____ Signature : _____

Once authorized, a copy of the completed DGCA Form4 must be returned to the nominee.

Note: a) On completion, please send this form under confidential cover to the DGCA.
b) Use separate sheet if needed.

P.O. Box 17, Safat 13001, State of Kuwait, Tel (965) 24743940, Fax (965) 24765796, Site: www.dgca.gov.kw, Email: safety@dgca.gov.kw

DGCA Form 4 Page 1 of 1 Issue 2, Rev. 5, Feb 2019

Sample Only

Appendix II Approval Recommendation Report (DGCA Form 6)

KUWAIT DGCA

Initial Grant		Intermediate Audit		Change		Continuation	

KCASR 8, PART-145 APPROVAL RECOMMENDATION REPORT DGCA FORM 6

Part 1: General

Name of Organisation:

Approval Reference:

Requested Approval Rating:

Form 3 dated*:

EASA 145/ FAA FAR 145 Cert No. (If app.):

Address of Facility Audited:

Audit period: From: To:

Date(s) of Audit:

Audit reference(s):	
Persons Interviewed:	

DGCA Inspector:		Signature(s):	

DGCA Office:		Date of Form 6 Part 1 completion	

*delete as where applicable

DGCA Form 6, Part 1, Page 1 of 1

Sample Only

KUWAIT DGCA

Initial Grant ☐ **Intermediate Audit** ☐ **Change** ☐ **Continuation** ☐

KCASR 8, PART-145 APPROVAL RECOMMENDATION REPORT DGCA FORM 6

Part 2: PART-145 Compliance Audit Review

The five columns may be labelled and used as necessary to record the approval class and/or product line reviewed. Against each column used of the following Part-145 subparagraphs please either tick (✓) the box if satisfied with compliance or cross (×) the box if not satisfied with compliance and specify the reference of the Part 4 finding next to the box, or enter N/A where an item is not applicable, or N/R when applicable but not reviewed.

Para	Subject					
145.A.25	Facility requirements	☐	☐	☐	☐	☐
145.A.30	Personnel requirements	☐	☐	☐	☐	☐
145.A.35	Certifying staff and Support staff	☐	☐	☐	☐	☐
145.A.40	Equipment, Tools, and material	☐	☐	☐	☐	☐
145.A.42	Acceptance of Components	☐	☐	☐	☐	☐
145.A.45	Maintenance Data	☐	☐	☐	☐	☐
145.A.47	Production Planning	☐	☐	☐	☐	☐
145.A.50	Certification of Maintenance	☐	☐	☐	☐	☐
145.A.55	Maintenance Records	☐	☐	☐	☐	☐
145.A.60	Occurrence Reporting	☐	☐	☐	☐	☐
145.A.65	Safety and Quality Policy, Maintenance procedures and Quality System	☐	☐	☐	☐	☐
145.A.70	Maintenance Organisation Exposition (see Part 3)	☐	☐	☐	☐	☐
145.A.75	Privileges of the organisation	☐	☐	☐	☐	☐
145.A.80	Limitations on the organisation	☐	☐	☐	☐	☐
145.A.85	Changes to the organisation	☐	☐	☐	☐	☐
145.A.95	Findings	☐	☐	☐	☐	☐

DGCA Inspector: Signature(s):

DGCA Office: Date of Form 6 Part 2 completion

Sample Only

KUWAIT DGCA

Initial Grant ☐ **Intermediate Audit** ☐ **Change** ☐ **Continuation** ☐

KCASR 8, PART-145 APPROVAL RECOMMENDATION REPORT FORM 6 ***DGCA***

Part 3: Compliance with 145.A.70 Maintenance organisation exposition

Please either tick (✓) the box if satisfied with compliance; or cross (✗) if not satisfied with compliance and specify the reference of the Part 4 finding; or enter N/A where an item is not applicable; or N/R when applicable but not reviewed.

Part 1		Management
1.1	☐	Corporate commitment by the accountable manager
1.2	☐	Safety & 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 (Note: a separate document may be referenced)
1.7	☐	Manpower resources
1.8	☐	General description of facilities at each address intended to be approved
1.9	☐	Organisations intended scope of work
1.10	☐	Notification procedure to the DGCA regarding changes to the organisations activities / approval / location / personnel
1.11	☐	Exposition amendment 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 programme compliance
2.11	☐	Airworthiness Directives procedure
2.12	☐	Optional modification procedure

Sample Only

KCASR 8, PART-145 APPROVAL RECOMMENDATION REPORT 6 ***DGCA FORM***

Part 3: Compliance with Part-145 Exposition

2.13		Maintenance documentation in use and completion of same
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 DGCA/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		Control of critical tasks
2.24		Reference to specific maintenance 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

Part L2 Additional 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, 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 control of critical tasks

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 qualification and training procedure
3.5		Certifying staff records.
3.6		Quality audit personnel.

Sample Only

PART-145 APPROVAL RECOMMENDATION REPORT ***DGCA FORM 6***

Part 3: Compliance with Part-145 Exposition

3.7	☐	Qualifying inspectors
3.8	☐	Qualifying mechanics
3.9	☐	Aircraft /aircraft component maintenance tasks exemption process control
3.10	☐	Concession control for deviation from organisation's procedures
3.11	☐	Qualification procedure for specialised 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 training as per Sect 6 of Appendix III to KCASR 1, Part 66 (Limited to the case where the competent authority for the Part 145 approval and for the KCASR 1, Part- 66 licence is the same)
3.16	☐	Procedure for the issue of a recommendation to the competent authority for the issue of a Part 66 licence in accordance with 66.B.105.(Limited to the case where the competent authority for the KCASR 8, Part 145 approval and for the KCASR 1, Part- 66 licence is the same)

Part 4

4.1	☐	Contracting operators
4.2	☐	Operator procedures/paperwork
4.3	☐	Operator record completion

Part 5: Appendices

5.1	☐	Sample Documents
5.2	☐	List of sub-contractors
5.3	☐	List of Line maintenance locations
5.4	☐	List of Contracted KCASR 8, Part-145 organisations

MOE Reference: MOE Amendment:

DGCA Audit Staff: Signature(s):

DGCA Office: Date of Form 6 part 3 completion:

Sample Only

KUWAIT DGCA

Initial Grant ☐ **Intermediate Audit** ☐ **Change** ☐ **Continuation** ☐

KCASR 8, PART-145 APPROVAL RECOMMENDATION REPORT ***DGCA FORM 6***

Part 4: Findings KCASR 8, Part 145 Compliance status

Each level 1 and 2 finding should be recorded whether it has been rectified or not and should be identified by a simple cross reference to the Part 2 requirement. All non-rectified findings should be copied in writing to the organisation for the necessary corrective action.

Part 2 or 3 ref.	Audit reference(s): Findings	Level	Corrective action		
			Date **Due**	Date **Closed**	Reference

Sample Only

KUWAIT DGCA

Initial Grant ☐ **Intermediate Audit** ☐ **Change** ☐ **Continuation** ☐

KCASR 8, PART-145 APPROVAL RECOMMENDATION REPORT ***DGCA FORM 6***

Part 5: Part-145 Approval or Continued Approval or Change Recommendation*

(Delete as required)*

Name of Organisation:

Approval Reference:

Audit reference(s)

The following Part-145 scope of approval is recommended for this organisation:

See attached document referenced:

Or

CLASS Aircraft / engine / component / specialised service	RATING Ax /Bx /Cx / Dx	LIMITATION (see Form 3 guidance ref: tbd)	BASE	LINE	STATUS New Revised Cancelled

Or, it is recommended that the KCASR 8, Part-145 scope of approval specified in DGCA Form 3 referenced…….. be continued.

Name of recommending DGCA Inspector:

Signature of recommending DGCA Inspector:

DGCA Office:

Date of Recommendation:

Form 6 review (Quality check): Date:

DGCA Form 6, Part 5, Page 1 of 1

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Appendix III to AMC 145.A15 (DGCA Form 2)

KUWAIT DGCA

APPLICATION FOR KCASR 8, PART-145 / PART M SUBPART G APPROVAL

Application for (tick as appropriate) initial grant [ ] variation [ ]

1. Registered name of applicant:

2. Company Registration No:

3. Trading Name (if different):

4. **Addresses requiring approval:**

Primary site:

Tel: **Fax:** **E mail:**
(Corporate address)

Other Sites:

5. Scope of Approval relevant to this application: (see page 2 for KCASR 8 Part 145 approval)
Note: A continuation sheet may be used if necessary. For Part M Subpart G applications list the aircraft types to be managed.

6. Is company EASA/FAR 145 approved: Yes/No Approval Reference:

7. Position and name of Accountable Manager:

……..

8. Signature of Accountable Manager:

……

9. Place:

10. Date:

Note: When completed this form should be returned to the Kuwait DGCA.

Sample Only

SCOPE OF PART-145 APPROVAL AVAILABLE

CLASS	RATING		LIMITATION	BASE	LINE
AIRCRAFT	A1	Aeroplanes above 5700 kg	State aeroplane/airship type and/or the maintenance task(s)	YES/NO	YES/NO
	A2	Aeroplanes 5700 kg and below	State aeroplane/airship manufacturer or group or type and/or the maintenance task(s)	YES/NO	YES/NO
	A3	Helicopters	State helicopter manufacturer or group or type and/or the maintenance task(s)	YES/NO	YES/NO
	A4	Aircraft Other than A1, A2 or A3	State aircraft series or type and/or the maintenance tasks	YES/NO	YES/NO
ENGINES	B1	Turbine	State engine series or type and/or the maintenance task(s)		
	B2	Piston	State engine manufacturer or group or series or type and/or the maintenance task(s)		
	B3	APU	State engine manufacturer or series or type and/or the maintenance task(s)		
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1	Air Cond & Press	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 the maintenance task(s)		
	C2	Auto Flight			
	C3	Comms and Nav			
	C4	Doors - Hatches			
	C5	Electrical Power			
	C6	Equipment			
	C7	Engine - APU			
	C8	Flight controls			
	C9	Fuel - Airframe			
	C10	Helicopter - Rotors			
	C11	Helicopter - Trans			
	C12	Hydraulic			
	C13	Instruments			
	C14	Landing Gear			
	C15	Oxygen			
	C16	Propellers			
	C17	Pneumatic			
	C18	Protection ice/rain/fire			
	C19	Windows			
	C20	Structural			
	C21	Water Ballast			
	C22	Propulsion Augmentation			
SPECIALISED SERVICES	D1	Non Destructive Insp.	State particular or group of services.		

Sample Only

DGCA Form 2 Page 2 of 2

With reference to the above scope of approval and item 5 on page 1, please complete the following example style, but relevant to your organisation.

A1	Base & Line Boeing 737-200	B2	Lycoming Piston
A2	Base Piper PA34	B3	Garrett GTCP85
A2	Base & Line Cessna Piston Twins	C2	SFENA
A3	Base & Line Bell 206/212	C4	Boeing 747
B1	CFM 56	D1	Eddy Current

There may be a number of types/manufacturers, etc listed against each rating

Appendix IV to AMC 145.A.30 (e) and 145.B.10(3) Appendix IV Fuel Tank Safety Training

This appendix includes general instructions for providing training on Fuel Tank Safety issues.

A Effectivity:

(a) Large aeroplanes with a maximum type certified passenger capacity of 30 or more or 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

(b) Large aeroplanes which contains EASA CS25 amendment 1 or later in their certification basis.

B Effected Organisations:

(a) Part 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.

(b) Components authorities responsible as per 145.B.30 for the oversight of the KCASR 8 - Part 145 approved organisations specified in this paragraph B.

C Persons from affected organisations who should receive training:

Phase 1 only:

(a) The group of persons representing the maintenance management structure of the organisation, the quality manager and the staff required to quality monitor the organisation.

(b) Personnel of the competent authorities responsible as per 145.B.30 for the oversight of KCASR 8 - Part 145 approved maintenance organisations specified in paragraph B.

Phase 1 + Phase 2 + Continuation training:

(c) Personnel of the KCASR 8 - Part 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:

Phase 1- Awareness:

The training should be carried out before the person starts to work without supervision but not later than 6 months after joining the organisation. The persons who have already attended the Level 1 Familiarization course in compliance with the standard defined in Appendix IV is already in compliance with Phase 1.

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 readers is required to ensure that the person has passed the training.

Level:

It should be a course at the level of familiarization with the principal elements of the subject.

Objectives:

The trainee should, after the completion of the training:

(a) Be familiar with the basic elements of the fuel tank safety issues.

(b) 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.

(c) Be able to use typical terms.

Content:

The course should include:

(1) a short background showing examples of FTS accidents or incidents.

(2) the description of concept of fuel tank safety and CDCCL.

(3) some examples of manufacturers document showing CDCCL items,

(4) typical examples of FTS defects.

(5) some examples of TC holders repair data.

(6) some examples of maintenance instructions for inspection.

Phase 2-Detailed training:

The persons who have already attended the Level 2 detailed training course from a KCASR 8 - Part 145 maintenance organisation or from a KCASR 1, Part 147 training organisation are already in compliance with Phase 2 with the exception of continuation training.

Staff should have received Phase 2 training by 31 March 2016 or within 12 months of joining the organisation, whichever comes later.

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%.

Level:

It should be a detailed course on the theoretical and practical elements of the subject.

The training may be made either:

(a) in appropriate facilities containing examples components, systems and parts affected by Fuel Tank Safety (FTS) issues. The use of films, pictures and practical examples of FTS is recommended, or

(b) by attending a distance course (e-learning or computer based training) including a firm 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:

(c) A continuous evaluation process should ensure the effectiveness of the raining and its relevance.

(d) Some questions at intermediate steps of the training should be proposed to ensure that the trainee is authorized to move to the next step;

(e) The content and results of examinations should be recorded;

(f) Access to an instructor in person or at distance should be possible in case support is needed.

A 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.

Objectives:

The attendant should, after the completion of the training:

(a) 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;

(b) Have the capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner;

(c) Have knowledge on how the above items affect the aircraft;

(d) Be able to identify the components or parts or the aircraft subject to FTS from the manufacturer's documentation,

(e) Be able to plan the action or apply a Service Bulletin and an Airworthiness Directive,

Content:

Following the guidelines described in paragraph E;

Continuation training:

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 the continuation training.

The continuation training may be combined with the phase 2 training in a class room or at distance.

The continuation training should be updated when new instruction are issued which are related to the material, tools, documentation and manufacturer's or competent authority's directives.

E Guidelines for preparing the content of Phase 2 courses

The following guidelines should be taken into consideration when the phase 2 training programmes are being established.

(a) understanding of the background and the concept of fuel tank safely,

(b) how the mechanics can recognize, 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,

(c) awareness of any hazards especially when working on the fuel system, and when the flammability reduction system using nitrogen is installed.

Paragraphs (a), (b), and (c) above should be introduced in the training programme addressing the following issues;

(1) 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'. Explain 2 concepts to prevent explosions:

(i) ignition source prevention and

(ii) flammability reduction

(2) The major accidents related to fuel tank systems, the accident investigations and their conclusions,

(3) 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 the, to systematically improve fuel tank maintenance,

(4) Explain the briefly 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,

(5) 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)

(6) 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,

(7) 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,

(8) Recording maintenance actions, recording measures and results of inspections.

The training should include a representative umber of examples of defects and the associated repairs as required by the TC/STC holder's maintenance data.

F Approval of training

For KCASR 8 - Part 145 approved organisation, 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 Kuwait DGCA.

END