EUROPEAN MILITARY AIRWORTHINESS DOCUMENT

EMAD 20

On the use of EASA's General Acceptable Means of Compliance for Airworthiness of Products, Parts and Appliances (AMC 20) in the Military Environment

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1. INTRODUCTION

1.1. EASA's General Acceptable Means of Compliance (AMC 20)

In civil aviation, Certification Specifications (CS) are used to demonstrate compliance with the Basic Regulation and its Implementing Rules, for the certification and continuing airworthiness of products, parts and appliances. These CS include in particular airworthiness codes, which are standard technical interpretations of the airworthiness essential requirements contained in the Basic Regulation, the implementing rules and the associated Acceptable Means of Compliance (AMC), which are non-exclusive means of demonstrating compliance with airworthiness codes or implementing rules.

The EASA General Means of Compliance for Airworthiness of Products, Parts and Appliances (hereafter referred to as AMC 20) illustrate a means, but not the only means, by which a specification contained in an airworthiness code or a requirement of an implementing rule can be met. Satisfactory demonstration of compliance using a published AMC shall provide for presumption of compliance with the related specification or requirement; it is a way to facilitate certification tasks for the applicant and the competent authority.

1.2. Application of AMC 20 in a military environment

Civil airworthiness codes are also often used to demonstrate compliance for airworthiness requirements of products, parts and appliances in the military domain. This is particularly the case when airworthiness codes are related to generic airworthiness requirements or when the military design is derived from, or equal to, a civil type design. In these cases, the application of the AMC 20 may be beneficial, noting that it may require adaptation for use in the military context. For military type design, some AMC 20 topics may be relevant, however further specific military considerations may be required.

1.3. Purpose and structure of this document

The purpose of this document is to provide National Military Airworthiness Authorities (NMAAs) a harmonised approach to the use of the AMC 20 in a military environment, although AMC 20 in itself is not directly applicable to military aviation. When required, the document also includes some specific military considerations named EMAD 20-X when the EASA produced corresponding AMC 20-X are relevant but not sufficient for the military environment.

The EMAD 20 follows the same reference structure as the AMC 20 issued by EASA.

The EMAD 20 is meant as an AMC type document. It contains Acceptable Means of Compliance that organisations may use but are not mandatory. However, if an organisation chooses to follow parts of the EMAD 20, these become an applicable standard for that organisation.

2. LIST OF AMC 20 THAT IS APPROPRIATE FOR THE MILITARY ENVIRONMENT AND CAN BE USED UNCHANGED

AMC 20-1 – Electronic Control Systems

AMC 20-2A - Certification of Essential APU Equipped with Electronic Controls

Reference is made into the EMACC.

AMC 20-3A - Certification of Engines Equipped with Electronic Engine Control Systems

Reference is made into the EMACC.

AMC 20-4A - Airworthiness Approval and Operational Criteria For the Use of Navigation Systems in European Airspace Designated For Basic RNAV Operations

If required for military operations. *(Reference to be made into the EMACC)*

AMC 20-5 - Airworthiness Approval and Operational Criteria for the use of the Navstar Global Positioning System (GPS)

If required for military operations. *(Reference to be made into the EMACC)*

AMC 20-6 - Extended Range Operation with Two-Engine Aeroplanes ETOPS Certification and Operation

If required for military operations.

AMC 20-9 - Acceptable Means of Compliance for the Approval of Departure Clearance via Data Communications over ACARS

If required for military operations.

AMC 20-10 - Acceptable Means of Compliance for the Approval of Digital ATIS via Data Link over ACARS

If required for military operations.

AMC 20-12 - Recognition Of FAA Order 8400.12a For RNP-10 Operations

If required for military operations.

AMC 20-15 - Airworthiness Certification Considerations for the Airborne Collision Avoidance System (ACAS II) with optional Hybrid Surveillance

If required for military operations. (*Note: There is a link to the EMACC - (flexibility to isolate system when installed))*

AMC 20-22 – Aeroplane Electrical Wiring Interconnection System Training Programme

AMC 20-24 - Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADSB)

If required for military operations.

AMC 20-26 - Airworthiness Approval and Operational Criteria for RNP Authorisation Required (RNP AR) Operations

If required for military operations. *(Reference to be made into the EMACC)*

AMC 20-27A - Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO-VNAV Operations

If required for military operations. *(Reference to be made into the EMACC)*

AMC 20-28 - Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System approach operation to Localiser Performance with Vertical guidance minima using Satellite Based Augmentation System

If required for military operations. *(Reference to be made into the EMACC)*

AMC 20-136 - Aircraft electronical and electronic system lightning protection

Applicable to all type aircraft CS 23/25/27/29 derivatives as related to EMACC.

3. EMAD 20-8 MILITARY CONSIDERATIONS ON USING AMC 20-8 (Occurrence reporting) FOR MILITARY APPLICATIONS

3.1. Intent

EMAD 20-8 is interpretative material, providing complementary guidance and specific military considerations for the use of AMC 20-8 in military applications to determine which occurrences should be reported to civil and military authorities and to other organisations as well as providing harmonized principles for setting up specific occurrence reporting procedures in the military environment.

3.2. Background

Safety in aviation stems from a continuous and dynamic desire to learn and to improve. Fundamental to this desire to learn is knowledge of what has happened, why it has happened and how it can be prevented from happening again. Collecting and sharing of safety related information allows us to collate, analyse and trend, looking for patterns and therefore focus efforts on maintaining or improving product airworthiness and military aviation safety. Engaging the various defence aviation manufacturers, operators and authorities in a harmonised reporting and investigation system, the opportunity to improve safety and capability can be realised, eventually delivering both improved safety performance and operational capability.

In European civil aviation, the regulatory requirements and corresponding AMC lay down reporting requirements and provide detailed guidance on what should be reported.

Aiming to create synergies for European military aircraft development and the military use of civil certified products (dual use), European Military Airworthiness Requirements (EMAR's) being developed by the EDA MAWA community to correspond with civil regulatory requirements in the area of airworthiness. Considering that many European aviation stakeholders, such as manufacturers, maintenance and support service providers are involved in both, civil and military aviation, these EMAR’s are to be complemented with equivalent military AMC, suitable for military and/or state aviation without duplication.

Therefore, EMAD 20-8 was developed as a document that does not replace AMC 20-8, but complements it providing necessary guidance and additional content for using AMC 20-8 in the military environment.

3.3. General Considerations

3.3.1. On the use of this document

This EMAD 20-8 should be read together with AMC 20-8. Whenever military aircraft or military operations are concerned, reporting organisations should consider the information provided in this document to revise or establish the specific lists of reportable occurrences, that are to be agreed with the relevant authorities in accordance with AMC 20-8.

3.3.2. On the usage of AMC 20-8 definitions

Where AMC 20-8 makes reference to the term 'Agency', ‘National Authority’ and 'other authorities', it should be understood as reference to its military equivalents, commonly referred to as 'NMAA' or ‘Military Authority’. Any reference to such a military authority should include entities[1] or military organisations carrying out specific roles, responsibilities and obligations for those authorities.

Where AMC 20-8 makes reference to 'Operator', military rules and military authorities might use the equivalent term of 'Operating Organisation'. In some cases, pMS may identify multiple 'Operating Organisations' within their structures.

[1] E.g. Qualified / Competent Entities

Where AMC 20-8 makes reference to 'rules', it should be interpreted as meaning applicable Regulations, Requirements, AMC, Guidance Material (GM), Airworthiness Codes[2] and associated competent authority / NMAA procedures. However, the structure of military 'rules' is defined in national context for each State. The binding nature of documents within national military 'rules' may vary and has to be determined in each single case.

Where AMC 20-8 makes reference to 'operating rules', it should be interpreted as meaning 'Rules' applicable to flight operations organisations including Continuing Airworthiness Management Organisations (CAMO).

3.3.3. On the applicability of AMC 20-8

For European civil aviation, common rules, including corresponding AMC, are published across all aviation domains, as defined in the Regulation (EC) No 2018/1139 of the European Parliament and the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, also known as 'Basic Regulation'.

Military harmonised requirements for aviation safety at European Level currently only exist in the field of Airworthiness, referred to as EMAR's. To achieve full coverage of Occurrence Reporting to support the objective of 'Improvement of Aviation Safety', all national military aviation rules, including domains not covered by EMAR's should be considered.

AMC 20-8 does not apply to dangerous goods reporting and refers to specific operating requirements, guidance and ICAO documents covering this subject. However, in the military domain, specific military requirements and standards covering the subject exist, such as STANAG's or Allied Ordnance Publications (AOP). Further guidance can be found under 'weapons and ammunition'.

3.4. Common principles for the establishment of specific military Occurrence Reporting Systems

This section provides common principles that can be applied to establish and / or evaluate specific military occurrence reporting systems. These principles are derived from the content of AMC 20-8 and are not exclusive or exhaustive. A specific military occurrence reporting system might be required to ensure consistency and coherence of occurrence reporting, especially when reporting organisations carry out tasks and obligations in the context of a multinational project, when national rules of different States apply or when, pursuant to bilateral or multilateral arrangements, requirements exist for reporting to a multinational body or other national entity, involved in the authorisation of design or airworthiness oversight.

A dedicated document describing the specific 'military' Occurrence Reporting System' should therefore specify:

- The scope of reporting;
- The objective of reporting;
- The roles and responsibilities of reporting organisations;
- The relevant authorities / NMAA's;
- The communication lines to authorities and between organisations;
- The specific reportable occurrences; and
- Military kinds of operations, systems or equipment that impact the specific reportable occurrences established under the previous bullet point.

[2] In the EMAR Framework, the term Airworthiness Codes is used instead of Certification Specification (CS) as defined by EASA

3.4.1. Scope of reporting

Detailed reporting requirements are different for operators/operating organisations, maintenance organisations, design organisations and production organisations and distinguished by national rules applicable to those organisations.

3.4.2. Relations between reporting Organisations and Authorities

If a reporting organisation carries out tasks and obligations in the context of a multinational project, or where applicable national rules of different States requires the reporting organisation to send the same kind of reports to multiple authorities / NMAA's, multinational body or other national entity involved in the authorisation of design or airworthiness oversight, a dedicated arrangement / document should provide sufficient detail regarding:

- The processes and procedures to be used for occurrence reporting;
- The roles and responsibilities of relevant stakeholders;
- The minimum content to be reported; and
- Any product specific criteria for occurrence reporting.

Such a document might also include security considerations related to occurrence reporting, which are not covered by this document.

Figure 1 of AMC 20-8 presents a simplified scheme of reporting lines. However, in a military scenario the following needs to be considered:

- The obligation to establish a system for collecting data usually lies with the Military (Supplemental) Type Certificate Holder ((S)TCH), while the analysis to determine whether an occurrence has resulted or may result in an unsafe condition lies with the design organisation. Unlike in civil aviation, Military (S)TCH often discharge their obligations through a contracted design organisation;

- Where Figure 1 makes a reference to the Agency / Authorities, this needs to be interpreted as the authority / NMAA relevant to the operators / operating organisations, maintenance organisations, design organisations and production organisations and distinguished by national rules. This may include reporting to a multinational body or other national entity;

- The Table provided in Appendix 1 of EMAD 20-8 provides an overview of communication relations between reporting organisations and authorities in accordance with the EMAR's.

3.4.3. Content of Reports

The content of occurrence reports should be sufficient to support the identification of unsafe conditions and agreed with the relevant authorities/NMAA's. As a minimum, the six elements contained in Chapter 7 of AMC 20-8 are considered reportable to the competent Authority / NMAA, using the means and/or forms for reporting, which are established by these authorities. If no specific forms are available, reporting organisations should consider the use of EMAR Form 44 to report technical occurrences.

3.5. Specific considerations and military reportable occurrences

3.5.1. System criticality assessment for Military Kind of Operations

System criticality can be different in specific military missions (e.g. Low-Level Flying, Air-to-Air Refuelling). Therefore, these missions and associated systems shall be taken into account when establishing the list of reportable occurrences, using the generic criteria provided by

AMC 20-8 Chapter 10 (g) – *List of examples of reportable occurrences* – under II B – *Aircraft Technical / Systems.*

3.5.2. RPAS

The list of examples of reportable occurrences in AMC 20-8 and EMAD 20-8 are equally applicable to RPAS.

3.5.3. Weapons and Ammunition

Weapons and ammunition are classified as dangerous goods when transported as regular cargo, in which case they would not fall into the scope of AMC 20-8.

However, if weapons and ammunition are considered being part of the military aircraft configuration (e.g. stores and equipment as part of the aircraft as a weapon system), they are considered as part/appliances of the aircraft being in the scope of this document.

3.5.4. Generic examples for military reportable occurrences

The following list contains additional examples for military reportable occurrences in addition to Chapter 10 (g) of AMC 20-8. Reporting organisations should contact their relevant authority seeking further clarification and to determine which examples are applicable to them.

3.5.4.1. Aircraft Flight Operations

(M1) Inadvertent/Irregular release/discharge of weapons (including defensive aids);

(M2) Inadvertent release of towed targets or decoys;

(M3) Helicopter external load malfunctions, including unusual load behaviour which led or could have led to irregular release;

(M4) Incidents related to “Air to air refuelling” and “ship borne” operations;

(M5) Losses due to hostile action;

(M6) Incidents and accidents, including severe injuries, during fast roping or abseiling from aircraft;

3.5.4.2. Aircraft Technical

(M7) Aircraft self-damage due to weapon release or detonation, including defensive aids;

(M8) External load malfunctions that led or could have led to a hazardous or catastrophic event;

3.5.4.3. Aircraft Maintenance and Repair

(M9) Foreign Objects (FO) or loose articles in areas where they dangerously interfere with aircraft operation and system functions, such as cockpits equipped with ejection seats;

3.5.4.4. Aircraft Navigation Services, C4ISTAR, Facilities and Ground Services

(M10) Provision of significantly incorrect, inadequate or misleading information from C4ISTAR sources, e.g. Airborne Command and Control, operational and intelligence databases, maps, charts, manuals etc., leading to an unsafe situation;

(M11) Failure, malfunction or defect of ground and test equipment used for preparation, loading or unloading of explosives and munitions, including defensive aids, and emergency egress systems involving explosive elements;

(M12) Incidents related to the preparation, loading or unloading of explosives and munitions, including defensive aids and emergency egress systems involving

explosive elements, including cases where the incident cause was incompliance with required procedures.

3.5.5. Additional examples for military reportable occurrences relating to specific systems

In addition to Annex 1 to AMC 20-8, the following list contains examples for military reportable occurrences resulting from the application of the generic criteria listed in Chapter 10 (g) II B of AMC 20-8 to specific systems, including military systems and equipment.

3.5.5.1. Occurrences related to common Systems

1. Air conditioning/ventilation:
   a) non-controlled depressurization.
2. Autoflight system (including precision approach systems):
   a) non-anticipated deviations from the lateral or vertical trajectory, which are not due to a pilot action;
   b) significant navigation errors attributed to incorrect data or to a coding error in the data base, data loss, poor data capture having led to a potential risk situation and highlighting inadequate ergonomics or the use of erroneous data.
3. Communications (including aircraft internal communications):
   a) failure or defect of communication systems (warning lights, intercom).
4. Electrical system:
   a) wiring degradation due to an unusual mechanical wearing or a wearing out of tolerance, to an inadequate wiring installation or presence of an electrical arcing.
5. Cockpit/Cabin/Cargo:
   a) interferences between the pilot seat and his flying gear, which cannot be compensated by the seat controls and which could result in a risk situation in flight;
   b) loss of retention capability of the cargo loading system, including external loads.
6. Fire protection system:
   Reserved.
7. Flight controls:
   a) switch to flight control degraded mode without any identified cause;
   b) flight outside the flight envelop normally protected by the fly by wire controls, except if it can be considered as normal as a result of a prior switch to degraded mode.
8. Fuel system:
   a) fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution including during and after the air to air refueling phase; exceedance of fuel imbalance limits.
9. Hydraulics:
   a) failure of an equipment (except indicating system) or hydraulic leakage which resulted in total or partial loss of the hydraulic circuit.
10. Information/warning/recording systems:

a) failure resulting to a lasting misinterpretation or incomprehension of the configuration, performances or status of the automatisms of the aircraft.

11. Landing gear system/brakes/tires:
    a) untimely braking;
    b) significant path deviation due a nose-wheel steering system problem;
    c) failure of the landing gear emergency system (including during programmed tests).
12. Oxygen:
    a) abnormal loss of oxygen supply in the crew cockpit;
    b) abnormal loss of oxygen supply in the passenger cabin, where applicable;
    c) events requiring any use of emergency oxygen by any crew member.

3.5.5.2. Occurrences related to specific military systems and equipment

1. Ejection device:
    a) malfunction of the ejection seat or of associated devices (leg restraint straps, etc.) or any abnormal finding about them;
    b) abnormal contacts (with instrument panel, consoles, canopy, etc.) during the ejection;
    c) abnormal injuries following the use of the ejection seat;
    d) malfunction of the device for severing the canopy or any abnormal finding about them.
2. Night vision devices:
    a) Interferences or ergonomics issues of night vision goggles associated with other pilot equipment which resulted in risks situations;
    b) optical disturbance caused by aircraft equipment normally low-light treated.
3. Military Aircrew equipment:
    a) unsatisfactory functioning or inadequate ergonomics of the oxygen breathing mask and the supply hose;
    b) unsatisfactory pressurization of the anti-g trousers;
    c) survival equipment interfering with the handling, accessibility or visibility of the flight controls or the recording/warning/information systems.
4. Air-to-air refueling equipment:
    a) rupture of the refueling probe or of a part of it;
    b) fuel leakage or failure to shut of fuel flow, where it resulted or could have resulted in hazardous or catastrophic events (fuel ingestion for the refueled aircraft, visibility degradation, etc.);
    c) sealing loss in the fuel system further to air-to-air refueling operations;
    d) collision between a receiver aircraft and parts of the AAR-System which separated from the tanker aircraft, with or without ingestion of the element by the air intake;
    e) untimely jettisoning of the refueling hose.
5. Self-protection devices:

a) malfunctions of safety relevant aircraft equipment during the operation of the self-protection device(s);

b) untimely deployment or firing of decoys;

c) any failure to safety pins and other means to secure self-protection systems, that resulted or may have resulted in unintentional deployment or firing.

6. Airlift, airdrop, air roping:

a) any failure or incident related to cargo stowage and securing equipment, such as unusual load shifting.

7. Stores and store devices:

a) unusual / unexpected wear or degradation of stores attachments and fittings;

b) firing anomalies, such as “hot missiles”;

c) malfunction of the emergency store separation;

d) firing incident on weapons such as gun, rockets, machine gun which could result in catastrophic or hazardous consequences for the aircraft.

8. Hoist:

a) findings or interference with the airframe within the normal operation limits;

b) anomalies associated with the shearing devices, including in emergency devices;

c) anomalies of structural integrity (cracks);

d) anomaly on the cable bearing the load;

e) operation anomaly or locking of mechanisms.

9. Devices for fire-fighters:

a) inability to jettison the payload;

b) operation anomaly of the payload jettisoning devices including during tests;

c) potentially hazardous findings on specific devices (scoops, etc.).

10. RPAS specific systems / Equipment:

a) unavailability of C2 data link within the regular data link envelope;

b) technical failures and malfunction within a Remote-Control Station with impact on the flight operation safety;

c) unexpected flight termination including, controlled crash, emergency parachute deployment, etc.

Appendix 1 to EMAD 20-8

To whom → / Who[3] ↓	NMAA	EMAR 145 AMO	OO/CAMO	External CAMO	MTCH	EMAR 21 Subpart F Organisation	EMAR 21 Subpart G Organisation (MPOA)	EMAR 21 Subpart J Organisation (MDOA)
NMAA[4]	X	-	-	-	-	-	-	-
EMAR 145 AMO	EMAR 145.A.60(a)	X	EMAR 145.A.60(d)	EMAR 145.A.60(d)	EMAR 145.A.60(a)[5]	EMAR 145.A.60(a)[5]	EMAR 145.A.60(a)[5]	EMAR 145.A.60(a)[5]
OO/CAMO	EMAR M.A.202(a)	EMAR M.A.202(a)[5]	X	EMAR AMC M.A.201(k)5.2.9	AMC M.A.202(a)	EMAR M.A.202(a)[5]	EMAR M.A.202(a)[5]	EMAR M.A.202(a)[5]
External CAMO[6]	EMAR AMC M.A.201(k)5.1.9	-	EMAR AMC M.A.201(k)5.1.9	X	AMC M.A.202(a), EMAR AMC M.A.201(k)5.1.9	EMAR M.A.202(a)[5]	EMAR M.A.202(a)[5]	EMAR M.A.202(a)[5]
MTCH[7]	EMAR 21.A.3A(b)1	-	-	-	X	-	-	-
EMAR 21 Subpart F Organisation	EMAR 21.A.3A(b)1, EMAR 21.A.129(f)2	-	-	-	EMAR 21.A.129(f)1[8]	X	-	-
EMAR 21 Subpart G Organisation (MPOA)	EMAR 21.A.3A(b)1, EMAR 21.A.165(f)2	-	-	-	EMAR 21.A.165(f)1[9]	-	X	-
EMAR 21 Subpart J Organisation (MDOA)	EMAR 21.A.3A(b)1	-	EMAR 21.A.3A(b)1	-	-	-	-	X

[3] According to para 5.a.(4) of Annex B of Basic Framework Document (BFD) "Organisations involved in design (including flight test), production (manufacture) or continuing airworthiness activities must establish an occurrence reporting and/or handling system …"
[4] NMAA - military aircraft country of registry NMAA
[5] *(If required by national regulations)*
[6] EMAR M.A.201(k) refers
[7] MTCH, MRTCH, MSTCH {i.e. AP MDOAH1(EMAR 21.A.112B(b) and AP MDOAH2(EMAR 21.A.112B(c)}, EMTSOH, major repair design approval holder
[8] Only to MTCH, MRTCH or design approval holder {i.e. AP MDOAH1(EMAR 21.A.112B(b) and AP MDOAH2(EMAR 21.A.112B(c)}, EMTSOH, major repair design approval holder}
[9] Only to MTCH or design approval holder {i.e. AP MDOAH1(EMAR 21.A.112B(b) and AP MDOAH2(EMAR 21.A.112B(c)}, EMTSOH, major repair design approval holder}

4. EMAD 20-20 - MILITARY CONSIDERATIONS ON USING AMC 20-20 (Continuing structural integrity programme) FOR MILITARY APPLICATIONS

4.1. Intent

EMAD 20-20 is interpretative material, providing complementary guidance and specific military considerations for the use of AMC 20-20 for developing a continuing structural integrity programme to ensure safe operation of ageing aircraft throughout their operational life, including provision to preclude Widespread Fatigue Damage in military applications. It aims to support military design approval holders (including type-certificate holders, supplemental-type-certificate holders, repair approval holders), operating organisations / CAMOs and maintenance organisations, especially in cases where the continuing structural integrity programme is based on another standards or references like the United States Department of Defense's (US DoD) MIL-STD-1530D 'Aircraft Structural Integrity Program'.

4.2. Background

A common concern for military and civil aviation is safeguarding the structural integrity of aircraft. The structural integrity of aircraft is of concern because such factors as fatigue cracking and corrosion are time-dependent, and knowledge about them can best be assessed based on real-time operational experience and the use of the most modern tools of analysis and testing. Especially for ageing aircraft in the military domain, changing operational needs and environments will impact the continuing validity of design assumptions and published preventive maintenance programs.

Structural Integrity Programmes are used to ensure communication and coordination between manufacturers, design approval holders (such as type-certificate and supplemental type certificate holders), operating organisations / CAMOs and maintenance organisations aiming to perform preventive maintenance for orderly-scheduled and efficient inspections, repairs, modifications, or component replacements of the aircraft structure and to identify and correct potential structural or material problems identified through the life cycle, minimizing their impact on the operational capabilities and availability.

The performance of Structural Integrity Programmes requires coordination between design approval holders, maintenance organisations, operating organisations / CAMOs and their related competent authorities10 Therefore, setting up an efficient Structural Integrity Programme in compliance with relevant aviation safety rules and airworthiness codes requires an assessment of involved entities and assignment of the required roles and responsibilities. For instance, many military aircraft are sourced from the US DoD. In such cases, using MIL-STD-1530D should be considered for showing compliance to the structural integrity requirements as the application of AMC 20-20 under the EMAR framework would not be optimal.

4.3. General considerations

4.3.1. On the use of this document

This EMAD 20-20 should be read together with AMC 20-20 in order to understand the limits of AMC 20-20 application in the military environment. However, due consideration of this document should be taken equally when considering other standards and other sources of information such as listed in annex 1 and 2 of this document.

[10] Competent Authorities include the National Military Airworthiness Authorities (NMAA) as well as any entity responsible for overseeing the organisations listed. In most cases, oversight over military operating organisations is inherent to the national defence organisational structure, even if not formally identified as an 'authority'.

4.3.2. On the usage of AMC 20-20 definitions

Despite the communality of some terms, most of the definitions of AMC 20-20 have no direct counterpart in other standards such as MIL-STD-1530D. Therefore, relevant stakeholders should agree which standard to use for the aircraft programme and all related modifications and supplemental type-certificates.

4.3.3. On the applicability of AMC 20-20

AMC 20-20 is one, but not the only, means to develop a 'continuing structural integrity programme'. The application of AMC 20-20 might be considered when military design approvals are based on or derived from civil design approvals, especially type certificates for large aeroplanes operated in Commercial Air Transport.

For military designs, be it new or existing without an established structural integrity program, it is advisable to consult existing sources of information and standards (Annex 1 and 2) to identify the appropriate standard to use with regards to the design and the applicable aviation system.

For aircraft systems supplied by the US DoD for instance, AMC 20-20 might not be applicable, even if these aircraft are operated and maintained in an EMAR compliant environment. The US DoD MIL-STD-1530D with Change 1 is tailor made for Departments and Agencies of the US DoD and implements related US Air Force Policies and Procedures for Acquisition and Sustained Life Cycle Management of USAF aircraft.

Nevertheless, it is advisable to consult AMC 20-20 and MIL-STD-1530D for understanding the links between relevant stakeholders, especially the role of the USAF Programme Office for establishing efficient communication between (EMAR compliant) design organisations / design approval holders, operating organisations / CAMO, maintenance organisations, competent authorities and their respective counterparts in the US DoD structure as well as availability and identification of required information sources related to structural integrity programmes. Due to the differences between AMC 20-20 and MIL-STD-1530D, only one of the documents should consequently be used across relevant stakeholders for a given aircraft system.

4.4. Specific Considerations

4.4.1. Supplemental Type Certificate and Repair Approvals Holders

Any modification or supplemental type-certificates affecting an aircraft's structure could have an effect on one or all aspects of the structural integrity assessment, especially for ageing aircraft. Such structural changes will need the same consideration as the basic aircraft. In cases where MIL-STD-1530D was used to establish an ASIP (Aircraft Structural Integrity Programme) for the basic aircraft, the operating organisation / CAMO should not only seek support from STC-Holders (who has primary responsibility for the design covered by the STC) but also establish a coordination with relevant Departments and Agencies of the US DoD, like the USAF program office.

Under AMC 20-20, STC holders are expected to review existing designs that may have implications for continued airworthiness in the context of ageing aircraft programmes and collaborate with operating organisations / CAMOs and relevant design approval holders, such as TCH. In case of US DoD supplied aircraft, availability of relevant data might be limited and subject to export control laws. Therefore, provisions for the reporting of operational data and third-party design approvals to the relevant Departments and Agencies of the US DoD need to be established, as appropriate.

Annex 1 to EMAD 20-20

Non-exhaustive list of known standards related to Structural Integrity Programs.

- US DoD MIL-STD-1530D 'Aircraft Structural Integrity Program';
- UK Def Stan 00-970, Design and Airworthiness Requirements for Service Aircraft;
- UK MAA, RA 5720 Structural Integrity Management;
- UK MAA, RA 5723 Ageing Aircraft Audit;
- UK MAA, RA 5724 Life Extension Programme;
- Canadian Armed Forces Technical Airworthiness Authority (TAA), Technical Airworthiness Manual, Change 7, Annex A Aircraft Structural Integrity Monitoring Requirements;
- …

Annex 2 to EMAD 20-20

Non-exhaustive sources of information related to Structural Integrity Programs.

- DASR Structural Integrity Guide issued by AUS Defence Aviation Safety Authority to be found at http://www.defence.gov.au/dasp/DASR-regulations/Default.asp;
- Papers (e.g. 104, 105, 106, 109, 116, 118, 123,…) issued by UK MASAAG (Military Aircraft Structural Airworthiness Advisory Group) to be found at https://www.gov.uk/government/publications/military-aircraft-structural-airworthiness-advisory-group-masaag-documents;
- Structural Integrity Handbook Guidance Document in Support of RA 5720 issued by UK MAA to be found at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/715327/Structural_Integrity_Handbook.pdf;
- A Survey of Aircraft Structural-Life Management Programs in the U.S. Navy, the Canadian Forces and the U.S. Air Force issued by RAND Corporation to be found at https://www.rand.org/content/dam/rand/pubs/monographs/2006/RAND_MG370.pdf;
- ASC-TR-2010-5002, Threats to Aircraft Structural Safety, Including a Compendium of Selected Structural Accidents/Incidents, ASC, AFMC issued by U.S. Air Force to be found at https://apps.dtic.mil/dtic/tr/fulltext/u2/a519867.pdf;
- Technical Report, The Technical Co-Operation Program TTCP, Handbook for Best Practice in Teardown of Aircraft Structures (Prepared by Technical Panel AER-TP-4);
- …

5. EMAD 20-21 - MILITARY CONSIDERATIONS ON USING AMC 20-21 (Programme to enhance aeroplane Electrical Wiring Interconnection System (EWIS) maintenance) FOR MILITARY APPLICATIONS

5.1. Intent

EMAD 20-21 is interpretative material, providing complementary guidance and specific military considerations for the use of AMC 20-21 for developing an enhanced EWIS maintenance programme for holders of military type certificates (MTC), holders of military supplemental type certificates (MSTC), Operating Organisations, Continuing Airworthiness Management Organisations and Maintenance Organisations.

5.2. Background

Civil best practises concerning the Programme to enhance aeroplane Electrical Wiring Interconnection System (EWIS) maintenance as presented in AMC 20-21 are also taken into consideration for military practises as documented in US MIL-HDBK-525 and 522. EMAD 20-21 considers these practices as equally acceptable.

5.3. General considerations

5.3.1. On the use of this document

EMAD 20-21 provides additional information to determine the applicability of AMC 20-21 in the military environment.

5.3.2. On the usage of AMC 20-21 definitions

Despite the communality of some terms, definitions of AMC 20-21 may differ from other standards such as US MIL-HDBK-525 and US MIL-HDBK-522. Therefore, relevant stakeholders should agree which standard should be used for the concerned aircraft programme.

5.3.3. On the applicability of AMC 20-21

AMC 20-21 is one, but not the only, means to develop an enhanced EWIS maintenance programme.

For aircraft systems supplied by the US DoD for instance, US MIL-HDBK-525 and US MIL-HDBK-522 can be equally applied.

In addition to AMC 20-21, US MIL-HDBK-522 provides further guidelines and best practices for conducting inspections of the electrical wiring.

Note: US Mil-HDBK-525 and 522 include fibre optics within the scope of EWIS whereas fibre optic cables, connectors and clamping are not within the scope of AMC 20-21. The EASA definition of EWIS precludes fibre optics (refer CS25.1701(c)). Exclusion was based on mitigating the risks associated with fire and explosion from electrical energy carried by electrical cables, and fibre optics are not considered as carrying electrical energy. From a full risk identification viewpoint, fibre optics should only be considered as part of functional loss assessment (via CSxx.1309) and any hazard caused by that failure.

6. EMAD 20-23 - MILITARY CONSIDERATIONS ON USING AMC 20-23 (Development of Electrical Standard Wiring Practices documentation) FOR MILITARY APPLICATIONS

6.1. Intent

EMAD 20-23 is interpretative material, providing complementary guidance and specific military considerations for the use of EASA AMC 20-23 for the development of Electrical Standard Wiring Practices documentation.

6.2. Background

The objective of EASA AMC 20-23 is to promote a common format for documents containing standard practices for electrical wiring, and to provide a summary of the minimum content expected to be contained within such a document.

While operating organisations, holders of and applicants for type-certificates and supplemental type-certificates as well as maintenance organisations are encouraged to follow EASA AMC 20-23, additional content may be required for military applications, defence equipment and systems.

6.3. General Considerations

6.3.1. On the use of this document

This EMAD 20-23 should be used in addition to EASA AMC 20-23 to address specific content required in the military environment.

6.3.2. On the applicability of EASA AMC 20-23

EASA AMC 20-23 is one, but not the only, means to develop 'Electrical Standard Wiring Practices documentation'. However, the application of EASA AMC 20-23 together with EMAD 20-23 is highly recommended for military applications, defence equipment and systems.

6.4. Specific Considerations

The minimum Electrical Standard Wiring Practices Manual (ESWPM) content is defined under point 8 of EASA AMC 20-23. However, the general electrical wiring maintenance framework contained within the body of EASA AMC 20-23 may not adequately address specific maintenance practices relating to defence equipment and systems. It is therefore recommended that maintenance practices for such equipment and systems should be captured under 8(i) 'Customised data'.

For example, additional, 'non-standard' wiring practices could be defined by type-certificate holders, supplemental type-certificate holders or other design holders' Instructions for Continued Airworthiness (ICA) applicable to the following systems / equipment, where protection against interference or electromagnetic sensitivity are critical to their safe and reliable operation:

- 'Special' weapons
- Electronic Countermeasures and jamming
- Automated assisted escape
- Cyber warfare
- Intelligence, surveillance, and sensing
- Other role equipment introduced as part of the aircraft type design, supplemental type design or equivalent modification action.

The above list is not exhaustive and is therefore provided as a guide for the systems that may need additional consideration / review.

Whilst EASA AMC 20-23 and EMAD 20-23 are primarily aimed at large transport aircraft and military applications of a similar class, it may be used, as best practice, to support document development for other platform types and classes.

7. EMAD 20-25 - MILITARY CONSIDERATIONS ON USING AMC 20-25 (Airworthiness and operational consideration for Electronic Flight Bags (EFBs)) AND SIMILAR USED PEDs FOR MILITARY APPLICATIONS

7.1. Intent

EMAD 20-25 is interpretative material, providing complementary guidance and specific military considerations for the use of AMC 20-25 in military applications to support national authorities and manufacturers to determine the applicability and limitations when using this AMC for determining the airworthiness impact or obtaining airworthiness approvals of EFB components and similar used portable electronic devices (PED).

7.2. Background

Among operating organisations and flight crews, the use of installed and portable electronic systems to carry digital documentation or to host applications using computational software (e.g. for performances), databases (e.g. for navigational data) or real time data coming from avionics (e.g. Moving Map Displays, sensor data visualisation, mission and tactical overlays) is common for military aircraft and key to operational capability.
The use of portable electronic devices to complement installed avionics on legacy aircraft, including the use of commercial of the shelf products, might be considered as fast, efficient and affordable alternatives to integrated equipment to enhance operational capabilities.
Whenever these assets are used by flight crews on board of military aircraft, a holistic operational and technical assessment is required to ensure airworthiness of the aircraft is not diminished and overall flight safety is maintained.

7.3. General Considerations

7.3.1. On the use of this document

This EMAD 20-25 should be read together with AMC 20-25 in order to understand the limits of AMC 20-25 application in the military environment.

7.3.2. On the usage of AMC 20-25 definitions

Where AMC 20-25 refers to the term 'airport moving map display (AMMD)', consider to read-across the information provided to all applications of EFB/PED presenting real time positions of the aircraft and other relevant objects, such as obstacles, when the aircraft is operated.
In military applications, flight phases where the aircraft is subject to significant changes of attitude, altitude or g-loads, such as encountered in Low Level Flight, should be considered as being ‘Critical Flight Phases’.

7.3.3. On the applicability of AMC 20-25

AMC 20-25 is one, but not the only, means to obtain airworthiness approval and to satisfactorily assess the operational aspects for the use of EFBs. While harmonised requirements for obtaining airworthiness-approvals are available in form of EMAR’s, with national airworthiness rules complying to them, no single set of harmonised operational rules for military aviation is available. Therefore, applicability of AMC 20-25 for assessing the operational aspects for the use of EFBs should be determined by the competent authorities of the operating organisations in coordination with the competent airworthiness authorities involved.

7.4. Specific Considerations

7.4.1. Airworthiness Approval

In accordance with AMC 20-25, an airworthiness approval is necessary for installed EFB systems, as well as EFB installed resources and mounting devices. A portable EFB device would not require an airworthiness approval, unless it features safety critical functionalities (such as Type C software applications), and provided its presence and use in the cockpit is

properly evaluated. Also, the mass, dimensions, shape, and position of the portable EFB must not compromise flight safety.
However, the use of portable EFB devices or similar PED's in specific military aircraft types (e.g. fast jets) or during military kind of operations (e.g. Low-Level Flight) requires further consideration.

7.4.1.1. Mounting / Emergency Egress

In some military aircraft types, suitable storage space for portable EFB or similar PED components is limited. When components are to be attached to personal equipment of the flight crew, such as strapping to the thigh, this should be treated similar to a mounting device in accordance with the AMC 20-25. In that context, the ejection seat or similar device are to be considered as an emergency and evacuation system.
For aircraft using ejection seats it should be considered that the ejection sequence might not leave time for the crew to store portable components of an EFB system or similar PED's.

7.4.1.2. Displays and other lighting sources

Where portable EFB components or similar PED are required to be operated while using Night Vision Imaging Systems (NVIS), they should undergo an airworthiness approval. To integrate such components into an NVIS environment, filters or covers could be used to mitigate for light-emitting sources, such as displays or status lamps. In such cases, the portable EFB component itself could be considered as not being part of the certified aircraft configuration, provided that:

a) a sufficient safety margin for production variances at the level of the portable EFB component is considered when showing compliance with the NVIS environment;
b) suitable operational procedures are prepared under the Operational Assessment; and
c) filters or covers used are part of the certified aircraft configuration (such as TC, STC or TSOA).

7.4.2. Operational Assessment

The operational assessment should be done in close coordination between the competent authorities (airworthiness and Operations), the operating organisation, and in accordance with the national rules on military aircraft operation that are applicable. AMC 20-25 may be used as guidance in setting up the operational assessment programme.
In accordance with EASA AMC 20-25, the operational assessment is required to ensure that portable EFB devices or similar PED's do not adversely affect the proper functioning of equipment required for type certification or by operating rules, or whose improper functioning would reduce flight safety. Where the portable EFB or similar PED has features not sufficiently covered by the operational assessment chapter of AMC 20-25, the airworthiness authority should be consulted to agree on adequate consensus standards to be used in the operational assessment. In cases where a significant safety impact or interference with safety relevant equipment is to be expected, the airworthiness authority might require this items to undergo a full airworthiness approval.

8. EMAD 20-29 - MILITARY CONSIDERATIONS ON USING AMC 20-29 (Composite aircraft structure) FOR MILITARY APPLICATIONS

8.1. Intent

EMAD 20-29 is interpretative material, providing complementary guidance and specific military considerations for the use of EASA AMC 20-29 for the evaluation of certification programmes for composite structures. EASA AMC 20-29 also contains guidance on the closely related design, manufacturing and maintenance aspects and primarily addresses carbon and glass fibre reinforced plastic structures, although many aspects of that document are also applicable to other forms of structure, e.g. metal bonded structure, wooden structure, etc.

8.2. Background

The objective of EASA AMC 20-29 is to standardise recognised good design practices common to composite aircraft structures in the civil domain in one document, and interfaces with EASA certification specifications (CS) like CS-23, 25, 27 and 29. However, the content of the AMC might also be considered as useful guidance in the certification of composite structures in other applications, even if based on other airworthiness codes or certification standards.

8.3. General Considerations

8.3.1. On the use of this document

This EMAD 20-29 should be used in addition to EASA AMC 20-29 to address military applications and military kind of operations for military aircraft development. The document should also ensure completeness of the validation of design assumptions where civil certified aircraft will be operated in the military environment, e.g. when military type certificates rely on type certificates issued by civil authorities.

8.3.2. On the applicability of EASA AMC 20-29

EASA AMC 20-29 is primarily used for design verification of composite structures when the certification basis references EASA CS-23, 25, 27 or 29.

Many of the concepts included in EASA AMC 20-29 may also be applicable in part or in full when other airworthiness codes are used. However, when using this AMC as an Acceptable Means of Compliance in such cases, appropriate engineering judgement should be exercised and early agreement with the Authority sought. The AMC applies to applicants for a type-certificate, restricted type-certificate, or supplemental type-certificate; certificate/approval holders; parts manufacturers; material suppliers; and maintenance and repair organisations.

8.4. Specific Considerations

8.4.1. Strength requirements

The EASA AMC 20-29 introduced 5 damage categories (AMC 20-29 Figure 3), which are agnostic to the source of damage, but rather consider the effect on the structure. As a strength loss due to damage may remain for significant amounts of time before it is discovered and rectified, these Categories shall ensure sufficient residual strength at any time to ensure that any airworthiness risk will be detected and properly mitigated.

The methodologies used to establish Strength Requirements may differ depending on the airworthiness codes or certification standards used for certification. Some of them have implicit assumptions about the frequency of applied load levels as well as definitions of specific load levels that are different from EASA CS. A remapping of load levels and damage categories may be necessary to ensure consistency with the load level definitions used for the baseline aircraft. As an example, the concept of Proof Load used by UK-Def Stan 00-970 may be seen comparable as the limit load used by EASA CS but it aims to provide extra Margin of Safety

given that military aircraft tend to have peak design loads defined by the pilot actions (i.e. Manoeuvre Loads) and therefore subject to variation, whilst civil aircraft tend to have peak design loads limited by normal operations (i.e. Gust Loads).

Therefore, for each System Specification the Damage Category Map derived from EASA AMC 20-29, Figure 4, should define the acceptable load level for each Category 1 through 4, if used in a military environment.

8.4.2. Load Enhancement Factors

Load Enhancement Factors (LEF) (called up, but not discussed in detail in EASA AMC 20-29), have commonly accepted values for civil aircraft (see CMH-17 section 12.6.3) However, the LEF only accounts for material variability and does not take into account other sources of scatter, such as aircraft usage (military kind of operation, mission mix) or aircraft configurations (e.g. such as stores, pods etc.).

Therefore, for civil certified aircraft, which are modified or adopted for military use, the LEF should be validated to confirm they are sufficient for the planned military usage. In case that aircraft usage or configuration are not covered, additional scatter factors should be considered. This may entail extra testing and analysis.

8.4.3. Considerations for weapons and stores

Where the stores or suspension systems are considered Critical Parts or if their loss could affect Critical Parts (e.g. a munition that could impact on a downstream critical part), dedicated Weapon and Store Design standards, such as Def Stan 07-085 or STANAG 3441 or 4432, should be considered in support to other airworthiness codes and standards.

Special consideration needs to be given to the degradation of composites over time due to usage and environmental effects, which may affect the stiffness and dynamics characteristics of structures involved in weapons release (such as pylons and hard points). Although the effect of ageing on stiffness and dynamics are arguably addressed in EASA AMC 20-29 and CMH-17, it may not be obvious that weapon or store release characteristics could be affected and potentially affect safety and functional requirements.

Therefore, functional and safety aspects of weapon and store release should consider the effect of ageing on structural dynamics.

8.4.4. Military specific threat models

The EASA AMC 20-29 Damage Categories are formulated in terms of the effect any threat might have on the composite, rather than the source. For proper damage assessment, knowledge about damage models and effects from any military threat is needed.

Regarding military specific threat models, the guidance provided by the “Composite Materials Handbook” CMH-17, Volume 3 may be used with the EASA AMC 20-29 to define Damage Categories in detail.

However, there are examples where threats may fall outside that of civil experience in terms of the effect on the composite structure (e.g. laser threat survivability, chemical and biological hardening, and nuclear weapon survivability). These threats, however, are likely to be very specific to a particular Air System and currently difficult to assess without significant effort and experience. Hence, programme specific special conditions may be required to document the Damage Categories developed for such cases.

8.4.5. Design Changes

Changes to the aircraft usage profile as well as design changes that include the reuse of certified structures (e.g. composite radome) should always be carefully assessed for their impact on the validity of Load Enhancements Factors (see 4.2) and threat models (see 4.4). As an example, a change of altitude profile may impact the hail threat model. Similarly, operating from unprepared landing strips with a propeller aircraft may change the threat assumptions for ground debris, e.g. during thrust reverse.

In addition, where composite structures are partially or completely reused, a potential reclassification of its criticality needs to be considered. As an example, a composite structure (such as a radome) mounted on the belly of an aircraft, but sited ahead of the propeller plane may change category from non-critical to critical structure due to the change in consequence of failure, e.g. bird strike.

8.4.6. Non-critical Structures

EASA AMC 20-29 provides Acceptable Means of Compliance and Guidance Material for composite structures, particularly those that are essential in maintaining the overall flight safety of the aircraft, also referred to as “critical structure”. Still, non-critical structures also need to be certified, but obviously the level of rigour will not be that for a critical structure.

However, further guidance for certification of non-critical composite structures can be found in documents like the FAA policy statement on the “Substantiation of Secondary Composite Structures”, PS-ACE100-2004-10030.

Annex to EMAD 20-29

Non-exhaustive sources of information sources related to Structural Integrity Programs.

1. **General Considerations for Certification**
   a) CMH-17 Vol 3, Chapter 12, “Damage Resistance, Durability and Damage Tolerance”, for detailed methodologies and guidance.
   b) MIL-HDBK-1530D, Section 5, “Detailed Requirements”, for a general information on requirements.
   c) EASA Proposed CM–S–013, “Installation of Antennas on Large Aeroplanes (CS-25)”, Issue 2, not military specific, but it may be useful as an aide memoire when considering threats and general certification.
2. **Threat Model Guidance**
   a) CMH-17 Vol 3, Chapter 12, Section 12.5 “Damage Resistance”, for methods and guidance on damage threats generally.
   b) JSSG-2001B, “Air Vehicle”, and specifically Sections 3/4 for assistance in ensuring that no credible threat models are missed for consideration.
   c) JSSG-2006, “Aircraft Structures” and specifically Sections A.3.2.19 A.3.11.1, A.4.11.1.2.1, and Tables VI, VII and VIII for military specific threat assessment and suggested threat criteria.
   d) DOT/FAA/AR-96/111 “Advanced Certification Methodology for Composite Structures”, and specifically Section 2 for developing impact threats, in this case the example is an F/A-18 upper wing skin.
3. **Repair**
   a) EASA CM-S-005 “Certification Memorandum, Bonded Repair Size Limits in accordance with CS-23, CS-25, CS-27, CS-29 and AMC 20-29”, not military specific, but it may be useful to reference.
   b) AGARD-CP-550, “Composite Repair of Military Aircraft Structures”, as a representative of military specific guidance material, albeit not state of the art (dated 1994).
   c) CMH-17, Vol 3, Chapter 14, “Damage Assessment”, and specifically 14.6, 7 and 8 for repairs, 14.9.1 for allowable damage limits, and 14.10 for design for supportability.

9. EMAD 20-158 - MILITARY CONSIDERATIONS ON USING AMC 20-158 (Aircraft electrical and electronic system High-Intensity Radiated Fields (HIRF) protection) FOR MILITARY APPLICATIONS

9.1. Intent

EMAD 20-158 is interpretative material, providing complementary guidance and specific military considerations for the use of AMC 20-158 in military applications to support national authorities and manufacturers to determine the applicability and limitations using this AMC for showing compliance with HIRF protection airworthiness requirements in the military environment.

9.2. Background

The Concern for the protection of aircraft electrical and electronic systems increases with the de dependence on electrical and electronic systems performing functions required for continued safe flight and landing of an aircraft as well as the severity of the HIRF environment the aircraft is exposed to, subject to the number and radiated power of Radio Frequency (RF) transmitters.
Military and civil aviation alike face increased susceptibility of electrical and electronic systems to HIRF because of increased data bus and processor operating speeds, higher density integrated circuits and cards, and greater sensitivities of electronic equipment.
Adverse effects have been experienced by civil and military aircraft when exposed to HIRF. However, the showing of compliance to HIRF related airworthiness requirements for aircraft to be operated in a military environment might require further considerations, as military kinds of operation, military equipment and the HIRF environment in military scenarios lead to exposure and severity levels that are different from those expected in civil aviation.

9.3. General Considerations

9.3.1. On the use of this document

This EMAD 20-158 should be read together with AMC 20-158.

9.3.2. On the usage of AMC 20-158 definitions

Where AMC 20-158 refers to the term 'Continued safe flight and landing', it shall be understood as ‘Continued safe operation and landing’. The safe operation shall take into account the effect of HIRF environments on weapon systems and stores that could unintentionally misfire or drop, endangering the carrying aircraft and other aircraft or third parties.

Where AMC 20-158 refers to 'Radio Frequency (RF)', a military HIRF environment might need to consider frequencies beyond the limits specified by AMC 20-158.

9.3.3. On the applicability of AMC 20-158

AMC 20-158 applies to all applicants for a new Type Certificate (TC) or a change to an existing TC when the certification basis requires to address of the HIRF certification requirements of CS 23.1308, CS 25.1317, CS 27.1317, and CS 29.1317. Similar, the AMC can be applied to any military aircraft to be operated in civil kind of operations and a HIRF environment corresponding to the values established in that AMC. For the operation of military aircraft in military HIRF environments, specific values need to be established, which might be classified information. In case that required field strength for a frequency range is different from the values required by AMC 20-158, the higher field strength shall be applied in showing compliance with applicable airworthiness requirements.