



# **EUROPEAN MILITARY AIRWORTHINESS DOCUMENT**

## **EMAD MFTP**

### **MILITARY FLIGHT TEST PERMIT PROCEDURE**

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**MILITARY AIRWORTHINESS  
AUTHORITIES FORUM**

EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

<b>DOCUMENT CONTROL</b>
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The following table identifies the persons who have approved this document

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# EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

# MILITARY FLIGHT TEST PERMIT (MFTP) PROCEDURE

## 1. Introduction

- 1.1 This procedure can be applied to the issue of a flight test permit for any Military Air System as an alternative process to EMAR 21 Subpart P – Military Permit To Fly and EMAR Form 18 – Flight Conditions for a Military Permit To Fly. In particular, when flights are proposed to take place in different nations and sharing of the MFTP is proposed. This procedure does not address the requirements for the integration of the Military Air System that is to be tested into the test range and the operating airspace.
- 1.2 For the purposes of this procedure the term Military Air System is used to identify the product to be tested.
- 1.3 The MFTP and all supporting documents can be in the national language of the National Military Airworthiness Authority (NMAA).
- 1.4 English translations of the MFTP and supporting evidence may be required to validate the compatibility with the host nation's test environment when flights are proposed to take place in different nations.
- 1.5 As a result of this procedure, a MFTP issued by the NMAA of one Nation should be recognised by the other participating Nations, depending on the relevant authorities' recognition agreements.
- 1.6 National procedures and requirements covering the issuance of MFTP's may be subject to audit by the other Nations for the purpose of recognition.

## 2. Scope

- 2.1 This procedure shall be used for the authorisation for specified flight(s) or where appropriate ground runs or taxi trials<sup>1</sup> of a Military Air System under the following conditions as an alternative to satisfying the requirements of EMAR 21 Subpart P:
  - a. Where no Military Type Certificate (MTC) exists<sup>2</sup>.
  - b. Following a major modification prior to the formal amendment to a MTC or issue of a Military Supplemental Type Certificate (MSTC).
  - c. Where the limitations identified in the MTC would otherwise prevent the proposed flight (e.g. extend the flight envelope).
- 2.2 The flight(s) shall be carried out in accordance with the flying regulations that apply in the country of registration.
- 2.3 Any restrictions imposed by the Nation in whose airspace the flight(s) take place shall be observed.
- 2.4 The conditions under which the issue of a MFTP is required is specific to the national requirement of the host nation.

<sup>1</sup> Ground runs or taxi trials that need a MFTP are those where there is a possible risk that the ground run or taxi trial could lead to take-off in case of mishap, mishandling etc. or where otherwise specified by the Authority.

<sup>2</sup> Is applicable for both the development of a Military Air System for which it is ultimately expected to issue a MTC or for flight of a Military Air System where it is not expected that a MTC will ever be issued.

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## 3. Warning

- 3.1 The Ministries of Defence and their organisations, like their contractors, are subject to both their National and European laws regarding Health and Safety at Work, without exemption. All Standards either directly or indirectly invoke the use of processes and procedures that could be injurious to health if adequate precautions are not taken. Standards or their use in no way absolve users from complying with statutory and legal requirements relating to Health and Safety at Work.

## 4. MFTP Procedure

- 4.1 Before test(s) of a Military Air System with the intention of flight or, where appropriate, ground runs or taxi trials can be undertaken, the Applicant shall request the issue of an MFTP to the level requested by the local/hosting national regulation, and shall supply all the required supporting evidence to the NMAA. The MFTP is specific to the individual Military Air System identified upon the permit by serial number. The signatory for the Design Organisation on the MFTP Application shall be approved for the purpose under the relevant national Design Organisation Approval arrangements of the NMAA to whom the application is made.
- 4.2 The MFTP must be signed in accordance with this procedure before the first flight of the proposed test programme can start. The MFTP states the Definition, Airworthiness, Safety and Limitations of the Military Air System to be tested / flown and the associated approved flight conditions. The MFTP shall be in the form of Annex A to this procedure.
- 4.3 In support of the request for a MFTP, the Applicant shall submit a signed Declaration of Compliance (D of C) along with the necessary documentation identified in Annex D to the NMAA. The D of C shall include evidence that the Military Air System has been inspected and tested as required to determine that it is airworthy and that no features or characteristics make it unsafe for its intended use. The content of a D of C is defined in Annex D.
- 4.4 In addition to the D of C, the Applicant shall provide evidence that they have arrangements in place for demonstrating that the Military Air System is fit for flight.
- 4.5 On receipt of the request the NMAA will review the evidence supplied and once satisfied the MFTP will be signed by the NMAA's authorised representative. The NMAA may delegate this activity to a Design Organisation approved under EMAR 21 Subpart J, for the cases where it has been granted as a privilege.
- 4.6 The Applicant shall apply to the NMAA for a new or amended MFTP when there are changes to the evidence contained in the D of C relating to: limitations, airworthiness, safety or configuration.
- 4.7 If changes to the data attached to the MFTP are required then the change to the MFTP shall be authorised and issued by the original NMAA (Amendment Statement (Annex C) which only authorises the change to the MFTP and does not authorise the flight).
- 4.8 An historical hard copy record shall be maintained of the original MFTP and subsequent Amendments.

### Particular Cases:

- 4.9 Where the Applicant does not have access to the appropriate design data, the Applicant shall include, in the D of C submitted in support of the MFTP, or any



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amendment thereto, evidence of review by the Military Air System Design Organisation or MTC/MSTC holder which confirms that the airworthiness and safety of the design have not been adversely affected.

- 4.10 For Flight Tests with an airborne armament store or air launched guided weapon system:
- a. The Applicant shall provide evidence, in the D of C submitted in support of the MFTP, or any amendment thereto, that the airborne armament store or air launched guided weapon Design Organisation has provided the necessary evidence with respect to any carriage, firing, launch/release or jettison limitations.
  - b. The Applicant is responsible for, and shall demonstrate, that due account of the limitations at clause 4.9 has been taken in the design, testing and operation of the Military Air System.

### 5. Determination of MFTP Conditions

- 5.1 The flight limitations specified in the D of C which forms a part of the MFTP shall be determined on the principles set out in the appropriate National standard for Military Air System design.
- 5.2 The flight limitations shall take account of the qualifications and competence of the air vehicle pilot, flight crew and flight test engineers as appropriate.
- 5.3 The MFTP conditions include:
- a. The configuration(s) for which the MFTP is requested;
  - b. Any condition or restriction necessary for safe operation of the aircraft, including:
    1. The conditions or restrictions put on itineraries or airspace, or both, required for the flights;
    2. the conditions, limitations and restrictions for the flights;
    3. the conditions for carriage of persons other than flight crew;
    4. the operating limitations, specific procedures or technical conditions to be met;
    5. the flight test programme;
    6. the continuing test airworthiness arrangements, including maintenance instructions and regime under which they will be performed.
  - c. the substantiation that the aircraft is capable of safe flight under the conditions or restrictions of subparagraph (b) for approval by the appropriate NMAA or, where appropriate, the unintended take off / flight situation recovery and safety management plan;
  - d. the method used for the control of the aircraft configuration, in order to remain within the established conditions.

## 6. Application and Approval of Flight Conditions

### Procedure

- 6.1 The Applicant shall develop a procedure for the approval of the flight conditions which must address the following points:
- a. Management of aircraft configuration;
  - b. Determination of the conditions that must be complied with to perform safely a flight;
  - c. Documentation of flight conditions substantiations (refer to Annex D);
  - d. Description of the implementation of the privileges granted by the NMAA based on DO Approval;
  - e. Authorised signatories;
  - f. Any particular cases related to military requirements;
  - g. Approval form in a similar format as proposed in Annex B;
  - h. Safety assessment and risk mitigation for each flight or the flight test campaign.
- 6.2 The procedure shall be submitted for approval to the relevant NMAA responsible for the issuance or renewal of the MFTP.

### Application

- 6.3 An application for approval of the flight conditions shall be made to the relevant NMAA responsible for the issuance or renewal of the MFTP.
- 6.4 Each application for approval or renewal of the flight conditions shall include:
- a. The proposed flight conditions (including the purpose of flight), flight restrictions and limitations;
  - b. The documentation as defined in Annex D;
  - c. A declaration that the aircraft is capable of safe flight under the conditions, restrictions and limitations specified in the flight conditions.

### Approval

- 6.5 The flight conditions shall be approved by the relevant NMAA responsible, or under DO privileges in accordance with the privileges granted by the NMAA, for the issuance or renewal of the MFTP.

## 7. Issue of MFTP

- 7.1 The relevant NMAA of the aircraft registered state will issue a MFTP to the Applicant under the following conditions:
- a. Upon presentation of the data required above; and
  - b. When the flight conditions have been approved in accordance with clause 6.4; and

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- c. When the relevant NMAA, through its own investigations, which may include specific inspections agreed with the Applicant, or through delegation to organisations approved under EMAR 21, is satisfied that the aircraft conforms to the design defined under clause 6.4 before flight and to additional national requirements.
- 7.2 Once the MFTP from the aircraft registered state is obtained, authorisation to fly shall be obtained in accordance with national regulations with the support of such MFTP.

### 8. Amendment to Flight Conditions and MFTP

- 8.1 Any change that invalidates the flight conditions approved or associated substantiation established and approved for the MFTP shall be approved in accordance with clause 6.5 or under privilege as described hereafter.
- 8.2 A change affecting the content of the MFTP requires the issuance of a revision of the MFTP, except if specified otherwise in the MFTP, in agreement with a privilege approved in the flight conditions.
- 8.3 On the basis of the DO Approval, the privilege of classifying changes affecting military flight conditions as minor or major, and of approving minor changes, can be granted in accordance with EMAR 21.A.263(c)6, taking into account the definition of major changes given in Annex E.
- 8.4 The Applicant shall assess changes and identify when approval of new flight conditions by the relevant NMAA is required.
- 8.5 In particular, when changes are performed internally by the Applicant under a privilege granted by the NMAA, the Applicant shall assess the impact of such changes on the flight conditions approved or associated substantiation established and approved for the MFTP. If no impact is identified, such changes shall be considered as remaining within the scope of the same MFTP and the same flight conditions approval. If an impact is identified, these changes will have to be classified as minor or major and be dealt with accordingly.
- 8.6 If changes affecting the flight conditions are foreseen, and are classified as major following the criteria of Annex E, on a case by case basis, they can remain within the scope of a single MFTP and a single Flight Conditions approval, provided that the intended changes are documented in the evidence provided for Flight Conditions approval, and that the relevant NMAA is satisfied with this evidence. Such documentation shall include:
  - a. The intended scope of the changes, describing their possible extent and therefore the frame that the Flight Conditions and the MFTP should cover;
  - b. The process describing the steps the Applicant will follow in order to implement the change;
  - c. The process used to justify that these changes, after having considered mitigations, will not result in having an impact on the safety of the intended flights.
- 8.7 Information concerning any change in the flight conditions should be made available to the relevant NMAA on request.

## 9. Transferability

- 9.1 A MFTP is not transferable.

## 10. Inspection

- 10.1 The Applicant for a MFTP shall provide access to the aircraft concerned at the request of the relevant NMAA responsible for the issue of the MFTP.

## 11. Validity and Duration

- 11.1 The MFTP shall be valid for a defined period.
- 11.2 The MFTP shall remain valid subject to:
- a. Compliance with the conditions and restrictions defined in this procedure, with the specific conditions defined in the MFTP and the additional ones identified for each particular country;
  - b. Not being suspended or revoked by the relevant NMAA;
  - c. The aircraft remaining on the same register.
- 11.3 If at any time after an MFTP has been issued, the Applicant becomes aware of evidence that necessitates a restriction on existing limitations, the Applicant shall immediately advise:
- a. The NMAA of the issuing Authority, and
  - b. The NMAA of the host nation, and
  - c. The Military Air System Design Organisation or MTC/MSTC holder, if different to the Applicant.
- 11.4 Where the restriction may affect other operators of similar type Military Air Systems, the Applicant shall also make arrangements for them to be informed via the appropriate regulatory Authorities or MTC/MSTC holder. The Applicant shall then request a new or amended MFTP to the original NMAA.
- 11.5 Following an occurrence, the Applicant or the NMAA may withdraw the MFTP. The Applicant or the NMAA, as appropriate, will advise all other involved parties including the Military Air System operator, the Government Quality Assurance Representative (GQAR) and the Government Project Office.

## 12. Visibility of Flight Tests

- 12.1 In order to follow efficiently the flight test campaign from the flight safety point of view, the NMAA shall be given information about the progress of Flight Tests authorized under the MFTP.
- 12.2 This shall be documented in the Applicant procedure, and shall include:
- a. The possibility for NMAA representatives to attend pre-flight briefings and post-flight debriefings of the first relevant flights following issuance of the MFTP;
  - b. Reporting of any occurrence during flights under MFTP impacting flight safety, including the Flight Crew Reports for these events;

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- c. Results of flight tests or other activities having an impact on substantiation of the flight conditions, in particular when linked to flight safety.
- 12.3 Non-attendance of a NMAA representative shall not prevent a flight from taking place.

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# ANNEX A to EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

Amendment Record Sheet :

A/L No.	Amendment Statement Ref.	Design or Flight Limitations and Parts affected	Incorporated by	Date Incorporated
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				



## **Annex B - Flight Conditions for a Military Flight Test Permit – Approval Form**

Security Classification

Reference:.....

### **1. Applicant**

*[Name of organisation providing the flight conditions and associated substantiations]*

### **2. Approval form nr. Issue:**

*[number and issue, for traceability purpose]*

### **3. Aircraft manufacturer/type**

### **4. Serial number(s)**

### **5. Aircraft configuration**

The above aircraft for which a permit to fly is requested is defined in *[add reference to the document(s) identifying the configuration of the aircraft, i.e. Aircraft Log Book]*

*[For change(s) affecting the initial approval form: description of change(s). This form must be re-issued]*

### **6. Substantiations**

*[References to the document(s) justifying that the aircraft (as described in clause 5 above) can perform the intended flight(s) safely under the defined conditions or restrictions, including the Certificate of Conformity.]*

*[For change(s) affecting the initial approval form: reference(s) to additional substantiation(s). This form must be re-issued]*

### **7. Conditions/Restrictions**

The above aircraft must be used with the following conditions or restrictions:

*[Details of these conditions/restrictions, or reference to relevant document, including specific maintenance instructions and conditions to perform these instructions]*

### **8. Statement**

The flight conditions have been established and justified in accordance with Para 6 (Application and Approval of Flight Conditions).

The aircraft has no features and characteristics making it unsafe for the intended operation under the identified conditions and restrictions.

*[when approved under a privilege of an approved organisation]*

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**9. Approved under** [ORGANISATION APPROVAL NUMBER]

**10. Date of issue**

**11. Name and signature**

*[Authorised signatory]*

**12. Approval and date**

*the appropriate approval: NMAA when not approved under a privilege of an approved organisation granted the NMAA*

*When the flight conditions are approved under a privilege, this form should be used by the approved organisation to document the approval.*

## Annex C - Amendment statement to Military Flight Test Permit for a military air system for changes to design limitations or flight conditions

Security Classification

Reference:.....

1. Amendment No ... to the Design/Flying\* limitations contained in MFTP for a Military Air System Reference ..... Issue .....
2. This amendment is issued in accordance with Military Flight Test Permit Procedure. This amendment does not of itself authorise flight trials but only authorises amendment to the appropriate MFTP.

Military Air System Type ..... Serial No .....

Contract Number .....

3. Brief description of alterations to design/flying limitations and/or approved pilot (with list of associated drawings and reason for the amendment attached, if necessary).
4. (a) \*Remove pages .... from Design/Flying\* limitations attached to the above MFTP.  
(b) \*Insert attached revised\*/new\* pages .... into Design/Flying\* limitations of the above MFTP.  
(c) \*Revise the authorised category of pilot by adding to\*/deleting from\* MFTP, Flying Limitations in accordance with instruction in Paragraph 3 above.  
(d) Record this amendment on the MFTP amendment record sheet.  
\*delete as appropriate

Date \_\_\_\_\_ Signed \_\_\_\_\_ Name \_\_\_\_\_

### For Design Organisation

Name of Applicant \_\_\_\_\_

Date \_\_\_\_\_ Signed \_\_\_\_\_ Name \_\_\_\_\_

### For National Military Airworthiness Authority

## ANNEX C to EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

### **Amendment Statement to MFTP Explanatory Notes**

1. This certificate is to be used to cover an amendment to the design or flying limitations contained in a MFTP.
2. This amendment must be promulgated by issue of new or the replacement and/or withdrawal of old pages as instructed by paragraph 4 of this Certificate. To assist the user, a vertical line should appear in the margin against those parts of the existing limitations which have been altered by current amendments.
3. The originator shall ensure that the correct security markings are given to this form and the amended page(s) which it covers.
4. When this form is used to amend a MFTP containing specific units (e.g. Imperial Units), the use of those specific units is to be continued.

## Annex D - Documentation to be submitted for the MFTP to be issued

A MFTP applicant must submit the following documentation:

- **Flight Conditions** approval form and all the documents and substantiations mentioned in this form, i.e.:
  - **Flight Clearance** issued by the industry organisation. If just a Flight Clearance Renewal is needed, all the documentation supporting the initial Flight Clearance must also be made available to the NMAA on request.
  - **Aircraft Status Summary**
    - Initial Aircraft Configuration and definition of configuration management process
    - Definition of the system to be tested. Aircraft Safety Synthesis
    - Aircraft Limitations list
  - **Maintenance procedures and assumptions**
  - **Declaration of Compliance** of all systems<sup>5</sup> (see Appendix 1 to Annex D)
    - for the first flight;
    - for the rest of flights, only modified systems shall be declared.
  - **Test programme items:**
    - Test objectives, including a description of intended test activities and test flights,
    - General definition of the areas in which the tests are intended to be performed
    - Risk assessment or procedure for risk assessment.
    - Applicable Flight Test procedures (FOM and/or Flight Test Guide) or equivalent particular safety procedures to be applied for the military specificities implying the need of a MFTP.
- **Flight Readiness Review** minutes, if applicable.

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<sup>5</sup> For Government Furnished Equipment (GFE) whose malfunction could lead to catastrophic, hazardous or major consequence the DoC should be issued by the DO responsible for the GFE and submitted to the Applicant for acceptance.

### Declaration of Compliance Criteria

The Declaration of Compliance shall be a signed statement of compliance (see Appendix 1 to this Annex) which covers and certifies the integrity of a list of the supporting evidence by reference number and issue status, the “D of C documentation”, which provides the following evidence as a minimum:

- a. System Definition
  - a.1 System Specification  
Defines the performance, airworthiness and safety requirements.
  - a.2 System Design Requirements  
Includes the Qualification and Airworthiness Basis
  - a.3 System Descriptions  
Short narrative description of the system(s) to be tested. The level of detail required will be dependent on the complexity of the system(s) to be tested and may refer to other more explicit document(s).
  - a.4 System Configuration  
Defines the design configuration (including software and interfaces) of the system.
  - a.5 System configuration changes introduced by modification  
Narrative statement of the system changes introduced since previous MFTP issue.
  - a.6 System Qualification Documentation  
A list of reports on all analysis and tests conducted to show compliance with the system specification (including software)
  - a.7 System Safety Analysis
    - a.7.1 The analysis must demonstrate that the design meets the required level of safety for the proposed flight(s). An overall system cumulative probability of catastrophic technical failure must be provided.
    - a.7.2 The analysis must also demonstrate that the design meets the required level of safety for ground operation (for example maintenance).
  - a.8 Design Limitations
  - a.9 Flying Limitations
  - a.10 System Technical Limitations list  
List identifying the technical limitations (performance) that relate to the proposed tests.
  - a.11 System Exceptions list  
List identifying the exceptions against the Airworthiness basis that have yet to be satisfactorily demonstrated.
  - a.12 Limiting Conditions List  
List identifying the limiting system external conditions for the proposed tests (e.g. VMC only, no rain, no cross wind >x knots etc.)

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- b. System Review reports
  - b.1 System Airworthiness Report

Report of the results from the Design Organisation's independent airworthiness review (independent checking function) of the evidence supporting the system definition. The checking function shall be independent from the design activities.
  - b.2 Report from reviews of the System definition comprising:
    - b.2.1 Report on System Design Reviews (SDR), including airworthiness aspects and report of performed system safety analysis.
    - b.2.2 Report on the Configuration Audit (CA)<sup>6</sup>. The CA will normally be undertaken throughout the design and build process in conjunction with the NMAA and will be in 2 parts:
      - (i) a Physical Configuration Audit (PCA) to verify that the as-built configuration of the Military Air System meets the documented design standard for the requirements of the proposed test(s) and
      - (ii) a Functional Configuration Audit (FCA) to verify the CIs and systems performance against the approved configuration documentation and determine whether the Military Air System design meets the functional requirements for the proposed test(s).
- c. Results from ground test and/or previous flight tests.
- d. Previous experience of the system.
- e. Flight test programme to which this request refers.
  - e.1 Definition of the system to be tested.
  - e.2 Definition of the actual test activities and test flights to be performed.
  - e.3 Test objective(s).
  - e.4 Reference to all limitations and exceptions (see a.8 – a.11)
  - e.5 A final risk evaluation for the complete program demonstrating suitable mitigation in place to achieve an acceptable level of residual risk.
- f. Maintenance Instructions
- g. Operating Instructions
- h. Operator's organisation and experience
  - h.1 A definition of the organisation to operate the system under supervision of the NMAA.
  - h.2 A short description of the organisation which will operate the system and a statement as to their competence.
  - h.3 A definition of key persons and their qualifications and experiences required for their tasks during the flight testing.
- i. Other information nationally required

NOTE: The above list is not exhaustive and in addition the operator will be required to prepare an operating safety argument in support of the use of airfields, ranges and test facilities for agreement with the relevant authority.

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<sup>6</sup> This satisfies the national requirement for a Statement or Certificate of Conformity for each Military Air System.

## ANNEX E to EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

The operating safety argument shall address separately the airfields and test/flight areas including access and egress routes to be used covering, as a minimum, the following:

- a. emergency conditions (crash, emergency landing and escape);
- b. all other conditions and environments that may affect the safety of the proposed flight(s) (for example EMC/I, flight profile, weather, multiple aircraft involved in the test etc);
- c. risk to other air vehicles;
- d. risk to people on the ground and measures taken to reduce that risk;
- e. risk to 3rd party property and measures to reduce that risk;
- f. go/no go statement based on the risk values estimated above.



**Appendix 1 to Annex D - Declaration Of Compliance for a military air system**

Security Classification

Reference:.....

Issue No

Military Air System

Contract No

D of C Documentation Reference

Issue

We, the designers of the above, hereby certify that:

With the exceptions and limitations stated in the above referenced D of C documentation;

**The Military Air System above has been designed to meet the design airworthiness requirements below and is declared safe of flight within the conditions and limitations defined in the flight conditions.**

Specification

Issue No.

Up to and including Amendment

Issued by

**DESIGN SIGNATORIES**

Recognised signatory for Design

Recognised signatory for the Board (Organisation)

Name:

Name:

Signature:

Signature:

For (Design Organisation)

Date



## **Annex E - Criteria for classification of changes affecting military flight conditions**

After the Applicant procedure has been submitted to and approved by the relevant Authority, it shall become the reference for actual practical application.

### **Guidance for application of privileges for approval of Flight Conditions.**

According to EMAR 21.A. 263(c)6 the possible flight condition approval privileges that can be granted to a DO are:

“To approve the conditions under which a military permit to fly can be issued in accordance with EMAR 21.A.710(a)(2)...”

Nevertheless initial flights of a new military air system are a safety critical phase that could be considered by the authority when granting the privileges related to the flight condition approval.

At the discretion of the authority and as guidance, the scope of the privileges should exclude the initial flights of:

- 1) A new type of aircraft; or
- 2) An aircraft modified by a change that is, or would be, classified as a significant major change or significant MSTC; or
- 3) An aircraft whose flight and/or piloting characteristics may have been significantly modified; or
- 4) An aircraft dedicated to open a non-conventional flight envelope.

The following examples are guidance for the term “significant” mentioned at point 2) and 3) above and should be considered as significant:

- a) A change that has an effect on weight and/or balance envelope limits of more than 10%.
- b) A change in the primary structure, materials or configuration, which results in an appreciable effect on structural strength and reliability of the materials, or operational characteristics of the aircraft.
- c) A change in the external aerodynamic configuration, involving a significant impact on down force, structural strength, reliability or operating characteristics of the aircraft.
- d) A change in the landing gear if the effect of the change substantially affects the system performance, or the structural strength of the aircraft.
- e) Modification of flight control system hardware if it has appreciable effect on architecture or operational characteristics.
- f) A change in the power plant and/or its control system, provided that the modification results in significantly affecting the characteristics of the engine or the propeller, structural strength, reliability or operating characteristics of the aircraft (for example, a change in the impact of maximum power of more than 10%).
- g) A change in the weapon system and/or its control system that significantly affects the reliability and structural strength or operating and performance characteristics of the aircraft.
- h) A change in the airworthiness limitations (limits of life, etc.), declared operational limitations or any change involving a modification of such limitations.

## ANNEX E to EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

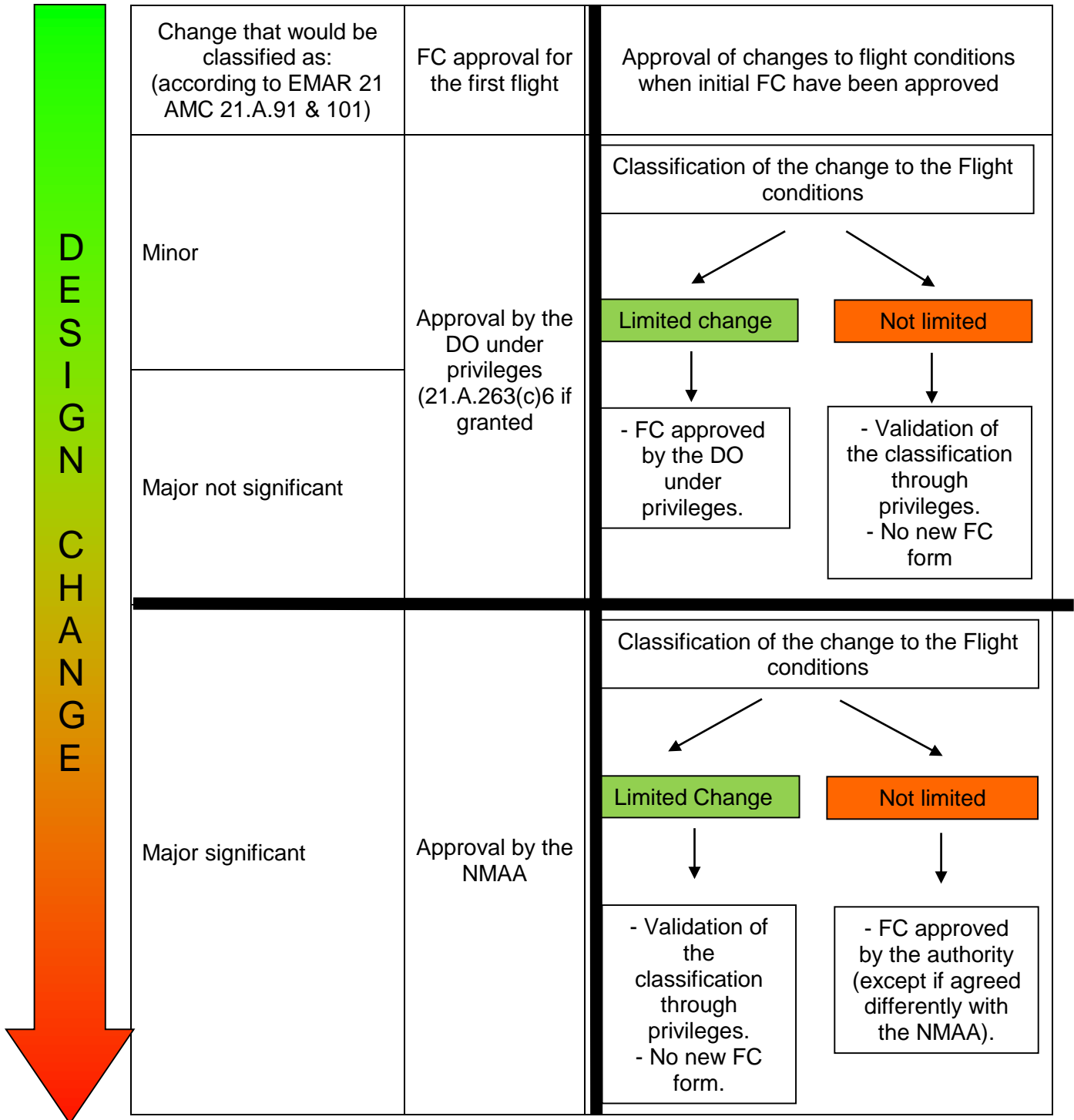
- i) A change of functions that create new catastrophic or hazardous failure conditions.
- j) A modification generated as a result of an airworthiness directive, if applicable.
- k) A significant change of the maintenance program, if applicable to the Aircraft, object of the MFTP.
- l) A significant change to the Flight Manual, such as changes in operating limitations, in normal procedures or in the emergency ones, if applicable.

The following list gives examples of “non-conventional flight” to be considered for point 4) above:

- Flights for opening flight domain such as:
  - Aircraft air-to-air contact.
  - Flare dispersal.
  - Sonobuoy dispersal.
  - Delivery: large cargo load delivery, paratrooper.
  - Ship landing.
  - Release of external load (dispenser, torpedo, missile... ) except sling load.
  - Other non-conventional flights such as tilt rotor, UAV.
- Firing campaign or flight with active armaments or with non-active but releasable armaments.
- Flights with non-active but releasable armaments.

# ANNEX E to EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

The following gives further guidance on the possible way to manage approval of flight condition under privileges for a Military Air System modified with a non-approved change to the type definition.



## ANNEX E to EMAD MFTP – MILITARY FLIGHT TEST PERMIT PROCEDURE

Examples of limited changes to the flight conditions:

- Mass and balance changes remaining in the limit of the manual.
- Configuration adaptation (such as mistake correction, bug correction, installation/removal of equipment belonging on the initial FC).
- Changes to the flight test installation that do not invalidate the substantiation documents issued with the initial flight conditions, accepted non conformity.

Examples of not limited changes to the flight conditions:

- Mass and balance changes out of the limit taken into account for the initial FC.
- Change to the flight domain, change of the nature of test (new).
- New information (result of test or occurrence, etc) or change to the configuration or the conditions that invalid FC substantiations or that will prevent the respect of the limitations.
- Airworthiness Directive that could not be applied.

This is to be captured in the Applicant procedure submitted to and approved by the relevant Authority, so that it becomes the reference for actual practical application.