

NATO STANDARD

AAMedP-1.11

**FATIGUE MANAGEMENT
IN AIR OPERATIONS**

Edition B, Version 1

MAY 2021



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED AEROMEDICAL PUBLICATION

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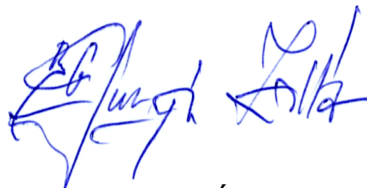
NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

20 May 2021

1. The enclosed Allied Aeromedical Publication AAMedP-1.11, Edition B, Version 1, FATIGUE MANAGEMENT IN AIR OPERATIONS, which has been approved by the nations in the MILITARY COMMITTEE AIR STANDARDIZATION BOARD (MCASB), is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 3527.
2. AAMedP-1.11, Edition B, Version 1, is effective upon receipt and supersedes AMedP-1.11, Edition A, Version 1, which shall be destroyed in accordance with the local procedure for the destruction of documents.
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4. This publication shall be handled in accordance with C-M(2002)60.



Zoltán GULYÁS
Brigadier General, HUNAF
Director, NATO Standardization Office

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
EST	Estonia does not allow the use of pharmacological agents to minimize the effects of fatigue on their pilots and air traffic controllers.
GBR	Para 2.2.3(b) refers. Due to the limited number of Avn Medical Officers, JHC and RPAS units cannot ensure (especially during operational employments) that individuals showing signs of fatigue will be monitored by flight medical personnel.
GRC	HAF, currently, doesn't accept paragraph 2.2.4 which concerns pharmacological agents. HAF will not use pharmacological agents during certain sustained operations to maintain performance and minimize the effects of fatigue.
ITA	Concerning paragraph 2.2.4, in accordance with national laws, in Italy is not allowed use of pharmacological agents to maintain performance.
<p>Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.</p>	

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CHAPTER 1 INTRODUCTION

1.1. AIM

The aim of this standard is to establish guidelines for the maximum allowable flying/operating hours and measures to provide for compulsory rest periods for aircrew/UAS–operators/ATC-personnel taking into consideration aspects to perform special operations and missions.

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CHAPTER 2 FATIGUE MANAGEMENT
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2.1. GENERAL**2.1.1. Fundamentals of Fatigue Management**

Participants agree to modify aircrew/UAS-operator/ATC-personnel maximum flying/operating times and compulsory rest periods in relation to any of those activities, by recognizing the following:

- a. the necessity that a given activity to be followed by a compulsory rest period prior to resumption of further activities;
- b. the desirability of ordering an additional compulsory rest period when the Flight Medical Officer/Flight Surgeon reports clear symptoms of operational fatigue;
- c. the desirability of limiting maximum accumulated flying hours for aircrew on a per month/per quarter/per year basis;
- d. the necessity to maintain human performance during special missions and sustained operations and to minimize the effects of fatigue. Sleep and alertness management is a key component to round the clock operations to maximize effectiveness and safety.

2.1.2. Factors to be considered in fatigue management

Implementation of these provisions will take into account the following factors:

- a. flying/operating hours;
- b. flight/operation related ground activities (instructions, briefings, instrument simulator training, etc.);
- c. any additional duties;
- d. climatic, environmental and circadian (where applicable) conditions in the area of operation;
- e. type and duration of the activity (e.g. trans-meridian flight, training, continuation training, aerobatics, etc.);

- f. type of aircraft/system (in relation to workload and effort demand of the individual);
- g. performance of aircraft (speed, g-load, ceiling, pressurization, handling specifics, etc.);
- h. personal and social situation of the individual.

2.2. MANAGING DETAILS

2.2.1 Flying Restrictions (manned aircraft)

Periods of activity should alternate with compulsory rest periods. Due to the wide variety of aircraft, missions and/or crew configurations, restrictions on daily flying hours will not be addressed by this standard but remain national responsibility. However, over a period of one up to 12 months the maximum accumulated flying hours shall not exceed the hours stipulated in the table below:

Flying Hours	Type of Aircraft		
	Single Pilot	Multi Pilot (unpressurized)	Multi Pilot (pressurized)
Per month	90	125	150
Per quarter	240	330	400
Per annum	850	1200	1400

2.2.2 Rest period

Rest periods should be provided following flying/operating and flying/operating related activities, as listed in paragraphs 2.1.2. a – c. The duration of the rest periods should be based in part upon the preceding activity, as well as the expected activity to follow the planned rest period. Rest periods may be either cut or prolonged under special circumstances. Hereby, duty- rest-schedules and fatigue management programs should be established by commanders in accordance with national regulations.

2.2.3 Aeromedical guidance

In addition to the above provisions, a rest should be recommended by the flight surgeon/flight medical officer and/ or ordered by the operational commander, for crew showing any signs of fatigue. Special care should be made available to that crew in accordance with national policies and regulations. Ideally, during the rest period crew should:

- a. be removed from the airfield to a suitable and comfortable environment;
- b. be re-evaluated by the flight surgeon/flight medical officer and/or the operational commander before resuming flying duties.

2.2.4 Pharmacological agents

Pharmacological agents may be used during certain sustained operations to maintain performance and minimize the effects of fatigue. The use of such agents requires careful supervision by flight medicine medical officers in accordance with national laws, regulations and procedures.

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