



**CIVIL AVIATION DEPARTMENT
MALDIVES**

**NOTICE OF PROPOSED RULE MAKING
NPRM NO: 2007-05**

28 November 2007

**Air Safety Circular ASC 00-1
Maintenance Personnel Duty Time Limitations**

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1. Purpose of this NPRM

The purpose of this NPRM is to consult the industry before issuing Air Safety Circular “ASC 00-1 Maintenance Personnel Duty Time Limitations”.

2. Background to the Proposal

The purpose of ASC 00-1 is to establish maintenance personnel duty time limitations in accordance with the human factors principles laid down by the International Civil Aviation Organisation (Refer ICAO Doc 9824).

According to MCAR-145.47(b), the planning of maintenance tasks, and the organising of shifts, shall take into account human performances limitations. Performance limitations especially involved regard those that must be taken into account to organise work teams, working hours, shifts and are therefore closely related to the notion of fatigue.

The classical symptoms of fatigue are:

- Lack of awareness,
- Diminished movement capacity,
- Diminished vision,
- Slow reactions,
- Short-term memory problems,
- Too limited concentration losing an overview of the situation,
- Easily distracted by different things,
- Increased mistakes,
- Poor judgement,
- Inadequate decisions or no decision at all,
- Abnormal moods.

One of the prevailing factors playing a role in fatigue is related to working hours and shift working. Several studies show a significant increase of the risk of errors in the case of shifts with long working hours and night shifts knowing that these risks increase significantly when these types of shift are cumulated.

The main points required to minimise the effects of the fatigue of the personnel working in shift are as follows:

- Avoid excessive shift working periods,
- Anticipate enough amount of night sleep,
- Minimise sleep loss,
- Give the opportunity for extended rest when night sleep has been disrupted,
- Take into account reduced physical and mental capacity at night,
- Take into account individual situations,
- Provide enough support / help to the technicians outside administrative periods,
- Give the opportunity for recovery,
- Overall minimisation of night shifts,
- Provide longer rest periods after night shifts,
- Launch the most complex tasks generally during the day,
- Ensure that appropriate checks are made after night shifts,

- Avoid repetitive tasks over a long period or anticipate intermediary breaks.

ASC 00-1 aims to minimise the effect of fatigue as it covers almost all of the points mentioned above.

References: UK CAP 716 ‘Guidance Material on the UK CAA Interpretation of Part-145 Human Factors and Error Management Requirements’ and French DGAC document ‘Guidelines of Safety System and Human Factors Approach for Part-145 Maintenance Organisations’.

3. Key Stakeholders

The following are identified by the CAD as key stakeholders in the proposed amendments to regulations contained in this NPRM:

- Island Aviation Services Ltd
- Maldivian Air Taxi Pvt Ltd
- Trans Maldivian Airways Pvt Ltd
- Aircraft Maintenance Personnel

4. Submissions on the NPRM

4.1 Submissions are invited

Interested persons are invited to participate in the making of the proposed rules by submitting written data, views, or comments. All submissions will be considered before final action on the proposed rule making is taken.

4.2 How to make a submission

Comments on this proposal may be forwarded (*preferably by e-mail*), using the NPRM Submission Form given in Appendix 1. The NPRM Submission Form is also available on the CAD website www.aviainfo.gov.mv.

Submissions may be sent by the following methods:

by mail: Civil Aviation Department
7th Floor, P.A Complex
Hilaalee Magu, Male’ 20307
Republic of Maldives

fax: + 960 3323039

e-mail: safety@aviainfo.gov.mv

4.3 Final date for submissions

Comments must be received before 30 December 2007.

4.4 Availability of the NPRM

Any person may obtain a copy of this NPRM from:

CAD website: www.aviainfo.gov.mv/regulations/nprm.php

or from:

Civil Aviation Department
7th Floor, P.A Complex
Hilaalee Magu, Male' 20307
Republic of Maldives

4.5 Further Information

For further information contact the Regulation Project Coordinator:

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Republic of Maldives

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5 Proposed Rule Amendments

Air Safety Circular ASC 00-1 (draft copy attached) will be issued.



Mahmood Raze
EXECUTIVE DIRECTOR

NPRM No:	Title:
Date of your Submission:	Comment Close-Off Date (as specified in NPRM):
Please return this response sheet to the Civil Aviation Department by comment close-off date – by e-mail to safety@aviainfo.gov.mv, by post to CAD, 7th floor P.A Complex, Hilaalee Magu, Male’, or by fax to + 960 3323039	

Please indicate your acceptance or otherwise of the proposal by ticking the appropriate box below. Any additional constructive comments, suggested amendments or alternative action will be welcome and may be provided on this response sheet or by separate correspondence.

- The proposal is **acceptable without change**.
- The proposal is **acceptable but would be improved if the following changes were made:**

- The proposal is **not acceptable but would be acceptable if the following changes were made:** (Please provide explanatory comment and use additional pages if required)

- The proposal is **not acceptable under any circumstance:** (Explanatory comment must be provided using additional pages if required)

Individual’s Details (complete if your submission is on behalf of yourself)		Organisation’s Details (if your submission is on behalf of the organization you represent)	
Your Name:		Organisation:	
Address:		Address:	
Phone:	Fax:	Phone:	Fax:
E-mail:		E-mail:	
Mobile:		Your Name and Position:	
Signature:		Signature:	



CIVIL AVIATION DEPARTMENT
Republic of Maldives

AIR SAFETY CIRCULAR

DRAFT

ASC 00-1

Maintenance Personnel Duty Time Limitations

Initial Issue, 1 January 2008

1. REGULATORY COMPLIANCE

Compliance with this Circular is mandatory for Maldivian organisations approved under MCAR-145 and MCAR-M.

2. RELATED REGULATIONS

This Circular relates specifically to MCAR-145 and MCAR-M.

3. PURPOSE

The purpose of this regulation is to establish maintenance personnel duty time limitations in accordance with the human factors principles laid down by the International Civil Aviation Organisation.

4. DEFINITIONS

For the purpose of this Circular, the following definitions shall apply:

'Day' means a period of 24 hours beginning at midnight;

'Employer' means the person by whom the maintenance personnel is (or, where the employment has ceased, was) employed;

'Maintenance personnel' means maintenance post holders, certifying staff, engineers, mechanics, technicians, technical record staff, planners, quality control/assurance staff, store department staff, ground support equipment operators and any other maintenance support staff, including contract staff in the mentioned categories.

'Night shift' means a shift where three or more hours of which falls between 11pm and 6am.

‘Shift/Working time’ means:

- any period during which he/she is working (includes rest breaks), at his/her employer's disposal and carrying out his/her activity or duties,
- any period during which he/she is receiving relevant training.

5. RIGHTS AND OBLIGATIONS CONCERNING WORKING TIME OF MAINTENANCE PERSONNEL

5.1 Daily working hour limits

- (a) No scheduled shift shall exceed 12 hours.
- (b) No shift shall be extended beyond a total of 13 hours by overtime.
- (c) A minimum rest period of 11 hours shall be allowed between the end of a shift and the beginning of the next, and this should not be compromised by overtime.

5.2 Breaks

- (a) A rest break shall be provided to maintenance personnel if the working time exceeds 4 hours.
- (b) The rest break provided for in paragraph (a) shall be an uninterrupted period of not less than 10 minutes plus 5 minutes for each hour worked since the start of the work period of the last break.
- (c) Maintenance personnel are entitled to spend the rest break away from his/her workstation if he/she has one.

5.3 Weekly working hour limits

- (a) Scheduled work hours shall not exceed 48 hours in any period of 7 successive days.
- (b) Total work, including overtime, shall not exceed 60 hours or 7 successive work days before a period of rest days.
- (c) A period of rest days shall include a minimum of 2 successive rest days continuous with the 11 hours off between shifts (i.e. a minimum of 59 hours off). This limit shall not be compromised by overtime.

5.4 Annual limits

- (a) Wherever possible, the aim shall be for a total of 28 days of annual leave. This shall not be reduced to less than 21 days of annual leave by overtime.

5.5 Night shift limits

- (a) A span of successive night shifts shall be limited to 6 for shifts of up to 8 hours long, 4 for shifts of over 8 hours to 10 hours long and 2 for shifts of over 10 hours. These limits shall not be exceeded by overtime.
- (b) A span of night shifts shall be immediately followed by a minimum of 2 successive rest days continuous with the 11 hours off between shifts (i.e. a minimum of 59 hours off) and this shall be increased to 3 successive rest days (i.e. 83 hours off) if the preceding span of night shifts exceeds 3 (or 36 hours of work). These limits shall not be compromised by overtime.
- (c) The finish time of the night shift shall not be later than 0800 hours.

5.6 Limits on morning/day shifts

- (a) A morning or day shift shall not be scheduled to start before 0600 hours and, wherever possible, shall be delayed to start between 0700 and 0800 hours.
- (b) A span of successive morning or day shifts that start before 0700 hours shall be limited to 4, immediately following which there shall be a minimum of 2 successive rest days continuous with the 11 hours off between shifts (i.e. a minimum of 59 hours off). This limit shall not be compromised by overtime.

5.7 Notice of schedule

- (a) Whenever possible, aircraft maintenance personnel shall be given at least 28 days' notice of their work schedule.

5.8 Additional requirements

- (a) Aircraft maintenance personnel shall be required to report for duty adequately rested.
- (b) Aircraft maintenance personnel shall be discouraged or prevented from working for other commercial organisations on their rest days and, hence, from exceeding the limits on work schedules despite their implementation by their main employer.

5.9 Records

An employer shall:

- (a) keep records which are adequate to show whether the limits specified in paragraphs 5.1 to 5.8 are being complied with in the case of each maintenance personnel employed by him in relation to whom they apply; and
- (b) retain such records for 2 years from the date on which they were made.

This Circular becomes effective on 1 January 2009.

For the Civil Aviation Department
Mahmood Razee
EXECUTIVE DIRECTOR