



संस्कृतं वाचते

GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP SAFDURJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS
SECTION 5 - AIR SAFETY
SERIES 'F' PART III
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EFFECTIVE: FORTHWITH
F. No. AV 15011/21/2010-AS

SUBJECT: Procedure for medical examination of crew for alcohol consumption

1. INTRODUCTION

- 1.1 It is known that even when the blood alcohol levels are zero, there could be some effects of hangover, which are mainly due to congeners. These congeners may take 15 to 18 hours to get dissipated and may produce ill effects for up to 36 hours depending upon the amount of alcohol consumed. Even 12 hours after a bout of drinking, when blood alcohol level was zero, there was decrement in task performance.
- 1.2 Therefore, in the present state of our knowledge, the level of blood alcohol compatible with safe flying is 'Zero'. ICAO has also recommended the same. It is equally important to intensify the educational programme for aircrew regarding the inherent dangers of flying after consumption of alcohol. Alcohol even in small quantities jeopardises flight safety on several counts and is likely to adversely affect an aviator well into the 'Hangover' period.
- 1.3 Two ounces of whiskey will raise the alcohol level to 50 mg. The amount of alcohol in a can of beer is approx. the same as in a single mixed drink. Wine, champagne, ale and other alcoholic beverages have same effects as liquor, though the concentration of alcohol varies from one beverage to the other and more volume is required to obtain same amount of alcohol in blood stream.
- 1.4 Alcohol interferes with the enzymatic cellular process or oxidation; consequently it causes hypoxia and reduces the individual tolerance with increase in altitude. It is known that a low alcohol blood level between 30 mg% to 50 mg% disturbs the sensor-motor, visual and cortical reaction. There is significant deterioration in psychomotor performance even at relatively low blood alcohol concentrations.

1.5 Alcohol is a depressant drug. Low levels of alcohol in the blood stream cause the drinker to be unable to accurately assess his performance. It decreases the amount of mental capacity available to deal with the many essential secondary tasks involved in safe flight. Should an emergency occur, the crew who has alcohol in his system is just that much less capable of dealing with the problem.

1.6 Definitions

Crew Member Means a person assigned by an operator to duty on an aircraft during a flight duty period.

Flight crew member Means a licensed crewmember charged with duties essential to the operation of an aircraft during a flight duty period.

Cabin crew member Means a crewmember other than a flight crewmember.

1.7 The Civil Aviation Requirement lays down the procedure to be followed for the routine medical examination of the 'crew members' for the consumption of the alcohol and actions to be taken by the operators. It also dwells on the procedure to be followed by the authorities concerned in the event of an accident.

1.8 This CAR is issued under the provisions of Rule 24 read with Rule 133A of the Aircraft Rules, 1937 for information, guidance and compliance by the concerned agencies.

2. APPLICABILITY

2.1 All Indian operators engaged in scheduled air transport services for carriage of passengers, mail or cargo shall comply with the requirements of this CAR. These safety requirements are equally applicable to the Non-scheduled/air taxi operators, State Government aircraft operations and private category aircraft operations.

3. SAFETY REGULATION

3.1 As per the provision of Rule 24 of the Aircraft Rules, 'no person acting as, or carried in aircraft for the purpose of acting as pilot, commander, navigator, engineer, cabin crew or the other operating member of the crew thereof, shall have taken or used any alcoholic drink, sedative, narcotic, or stimulant drug preparation within 12 hours of the commencement of the flight or taken or use any such preparation in the course of the flight, and no such person shall, while so acting or carried, be in state of intoxication or have detectable blood alcohol whatsoever in his breath, urine or blood alcohol analysis or in a state in which by reason of his having taken any alcoholic, sedative, narcotic or stimulant drug or preparation his capacity so to act is impaired, and no other person while in a

state of intoxication shall enter or be in aircraft.'

- 3.2 The holders of licence shall not exercise the privileges of their licenses and related ratings while under the influence of any psychoactive substance which might render them unable to safely and properly exercise the privileges of the licenses and ratings.
- 3.3 The operator is obliged to ensure no wilful contravention of Rule 24 by subjecting 'crew members' to a check for all operations in India as well as outside India.
- 3.3.1 For flight originating in India 100% of 'flight crew member' and 100% of 'cabin crew member' shall be subjected to Pre-flight Medical Check for alcohol consumption herein after referred as 'PFMC'. For scheduled operators this percentage shall be on daily basis. ~~and for operators other than scheduled the percentage shall be worked out on fifteen-calendar day's basis.~~
- 3.3.2 For flight originating from destinations outside India 100% of 'flight crew member' and 100% of 'cabin crew member' shall be subjected to Pre-flight Medical Check for alcohol consumption. The operator may take the services of Para-Medical staff duly trained for the purpose, for conducting PFMC at destinations outside India. The operator should ensure that the "Para- Medical Staff" has been adequately trained in carrying out the Breath Analyser test and its interpretation ~~PFMC shall be carried out at an interval of 15 days at that station as per Para 3.3.1. This shall be supplemented by post flight medical check. It shall be ensured that all the flights originating from outstation are covered by post flight medical check within a period of every 10 days i.e. three times in a calendar month.~~
- 3.3.3 For operators other than the scheduled operators, where the necessary infrastructure exists, PFMC shall be carried out at least 60% of 'flight crew' as well as 'cabin crew' member. ~~The percentage shall be worked out on fifteen-calendar day's basis.~~ However, where infrastructure does not exist, such operators can use post flight medical check for alcohol consumption in place of PFMC.
- 3.3.4 All Aircraft Maintenance Personnel authorized for taxiing aircraft shall be subjected to Breath Analyser Check for alcohol consumption before undertaking any taxi operation of the aircraft. If found BA positive, AME shall not be permitted to undertake taxi operation.
- 3.3.5 Save as provided, representative of Air Safety Directorate/DMS (CA) of DGCA at his discretion may order a breath analyser check of any of the crew members prior to or on completion of a flight.
- 3.3.6 No crew member shall consume any drug/formulation or use any substance Mouthwash/Tooth Gel which has alcoholic content. Any crew member who is undergoing medication shall consult the company aero medical expert before undertaking flying assignment.

4. EQUIPMENT TO BE USED

- 4.1 At all times operators shall make available at least two serviceable breath analyser equipment capable of meeting the requirements of the rule 24 and giving accurate digital record of observation. Operators other than the scheduled may comply with the requirement of instrument by pooling their resources. Scheduled operators at places other than their main base may also pool their resources.
- 4.2 The breath analyser equipment shall be attachable to a printer. At least one serviceable printer for the breath analyser equipment shall be available at all times.. The specifications for breath analyser equipment are given in Appendix I to this CAR. Operator shall maintain sufficient stock of the tubes used for blowing.
- 4.3 The equipment shall be calibrated frequently, from a government laboratory or government approved laboratory. The frequency of calibration shall be based on number of blows. The date of the last calibration of breath analyser units shall be appended on the instrument, which could be checked as and when required. Record of such calibrations shall be maintained by the operator. It shall be the responsibility of the operator to ensure continued serviceability of the breath analyser equipment at regular intervals and maintain such records.
- 4.4 Before each test, the doctor shall run an 'air blank' on the instrument and obtain a reading of 0.000. The doctor shall also carry out a control test on daily basis and keep a record of printout to ensure serviceability of both the breath analyser equipment and the printer.

5. PROCEDURE FOR PRE-FLIGHT MEDICAL EXAMINATION

- 5.1 Scheduled operators at base station shall use the doctor/**Para-Medical Staff** (at least ~~MBBS degree holder~~) in the fulltime employment of the company to conduct the test in maximum possible privacy at a designated pre-flight room. Scheduled operators at places other than their main base and operators other than the scheduled may meet this requirement by having doctor/ **Para-Medical Staff** (at least ~~MBBS degree holder~~) on contract or pooling their resources.
- 5.2 After reporting to the **Doctor/Para-Medical Staff** ~~medical officer~~ for PFMC, the crew member shall sign the undertaking in the pre-flight examination book for alcohol that 'I confirm that I am not under the influence of alcohol'. Date and time must also be recorded. Once a crewmember signs the undertaking, the doctor/**Para Medical Staff** will carry out the pre-flight medical examination.
- 5.3 The pre-flight medical book shall be in a bound volume with all pages serial numbered. PFMC test records shall be maintained as per the format given in Appendix II. Scheduled airlines may maintain PFMC records in a register as per the

format given in Appendix III.

- 5.4 While conducting PFMC, in addition to breath analyser test, the doctor will perform a quick visual examination of the crew members. In case of clinical suspicion, the doctor/ Para-Medical Staff would perform a detailed examination.

If the breath analyser test is positive, the reading shall be recorded and print out taken. A repeat test shall be carried out after an interval of maximum 15-20 minutes. During this time the subject crew may be permitted to wash his face, rinse his mouth, if desired. Before the second test is carried out, a control test must be taken to verify the serviceability and correctness of the breath analyser. The reading so obtained shall be recorded and print out taken. For scheduled operators, the second test shall be carried out in the presence of a witness who could be the Duty officer (Flight Dispatch) and/or higher officer in the organisation and result so obtained shall be recorded and a print out taken. At outstations where flight dispatch/operation office set up is not available, the Airport Manager/Duty Officer will act as a witness. For other category of operators, the Station Manager or a designated person shall act as a witness for the second test. In case the crew member fails to carry our second BA test within 15-20 minutes, action shall be taken in accordance with Para 7.1 of this CAR.

- 5.5 The make, serial number and calibration of the instrument shall be recorded in the event of a positive test. Under no circumstances third test is to be done. Also no blood samples are to be taken.
- 5.6 If the second test is satisfactory, the crew may be cleared for flight. If the crew refuses to undergo second test, it shall be recorded and the concerned crew shall not operate the flight. In such case, action against the crew member shall be taken in accordance with Para 7.1 of this CAR.
- 5.7 In case of flights originating from stations where no facilities are in existence, for operators other than scheduled operators, the pilot-in-command will record a certificate in pre-flight medical record book to the effect that no flight crew member including himself is under the influence of alcohol as required in this CAR. However, this will not be applicable for stations where the operator has a base or is regularly operating from.
- 5.8 Additional crew member travelling as a passenger on completion of duty or for positioning to operate flight from the destination may not undergo PFMC. Such crew member shall be subjected to PFMC from where he/she undertakes the flight.
- 5.9 All the positive cases shall be promptly reported but not later than 24 hours of occurrence to the concerned Regional Air Safety Offices of the DGCA and Director of Air Safety (HQ) and the Air Safety Office at the base of the operator to which crew belong along with all documents and printouts.

6. CARRIAGE OF VIP AND OUT STATION FLYING

- 6.1 Whenever a designated VIP is to be carried on board for the purpose of flying, breath analyser check of the crew designated to conduct such flight shall be carried out.
- 6.2 During the period of increased commitment for operators other than scheduled operators at out station, such as election flying, seasonal operations, etc., the breath analyser check shall be carried on random basis with the breath analyser equipment of type indicated in Para 4.2. In the event a crew is tested positive, the digital reading of the breath analyser shall be recorded by the doctor and countersigned by the crew testing positive. The repeat test shall also be carried out as per the procedure laid down in Para 5. In the event the second test is also positive, the print out of both the tests shall be taken.

7. ACTION ON POSITIVE TEST

- 7.1 Any crew member/AME that tests positive for the first time or refuses to undergo the PFMC/operates the aircraft without undergoing breath analyser test/attempt to evade the test procedure by leaving the airport premises shall be considered as BA positive. Such crew members shall be kept off flying duty and their license/ approval suspended for a period of 3 months. In case the crew member is detected positive during PFMC for the second time, the license/approval shall be suspended for 2 years. In case the crew member is detected positive during PFMC for the third time, the license/approval shall be suspended for 5 years. **These requirements shall have prospective effect.** ~~For the purpose of this requirement, any crew member who has failed in PFMC before 13th November 2009 shall be considered as BA positive for the first time. In case the crew member fails in PFMC again after 13th November 2009, it shall be considered BA positive second time.~~
- 7.2 An Instructor/Examiner/Check crew/Cabin Crew In-charge detected positive during the pre-flight medical examination will lose such ratings/authorisation for at least 3 years in addition to the action as mentioned above.
- 7.3 All such violations shall be endorsed on the individual's licence by DGCA. It shall be the responsibility of Chief of Flight Safety/Accountable Manager to submit the licence/authorisation to DGCA for necessary endorsement.
- 7.4 **Whenever an expatriate pilot, operating in India and holding a FATA is found BA positive, the FATA shall be cancelled and in addition to this the concerned license issuing authority of the country shall be informed.**

8. POST-FLIGHT MEDICAL EXAMINATION

- 8.1 Post flight medical examination shall be carried out in privacy, in aircraft after

disembarkation of all the passengers and within the stipulated duty hours. Information regarding the breath analyser test on the assigned flight will be passed by the Commercial Duty Officer/Flight Dispatch to the commander of the aircraft, who in turn will brief the 'crew members'.

- 8.2 Any 'crew member' who tests positive in a post flight medical test will also be construed to have acted in contravention of Rule 24, Aircraft Rules 1937. The details of their post flight medical check, licenses, ratings, and approvals shall be immediately intimated to the Director of Air Safety (HQ) and the concerned crew member shall not be rostered for further flying. Action shall be taken against such crew members in accordance with the proviso of Schedule VI of the Aircraft Rules, 1937. Pending action under Schedule VI of the Rules, the involved crew member shall surrender the licenses forthwith.
- 8.3 For domestic flights, post flight medical check shall not be done as a matter of routine. It shall be ordered by representatives of Air Safety Directorate/ DMS(CA) of DGCA and Chief of Flight Safety of the concerned airline.
- 8.4 Operators other than the scheduled may carry out post flight medical examination in lieu of PFMC.

9. MEDICAL EXAMINATION AFTER ACCIDENT

- 9.1 In the event of an accident at an airport or in its near vicinity, the Officer In-charge of the aerodrome shall ensure that the crew members are immediately subjected to medical check-up for the consumption of alcohol. The doctor carrying out such a medical check-up may take samples of blood, urine, etc. required for detailed chemical analysis. In the event of accident at an airport, breath analyser test, samples of blood, urine, etc. shall be taken at the Airport Medical Centre, wherever available.
- 9.2 In case where medical centres are not available at the airports or when the condition of crew members requires immediate hospitalisation, Aerodrome Officer In-charge shall ensure that the sample of the blood, urine, etc. is taken at the nearest hospital. These checks should be expeditiously carried out without any loss of time.
- 9.3 In case where accident is at a location far away from the airports and the police authorities are able to reach the crash site before the aerodrome authorities and the crew members are alive, the procedure of blood/urine collection shall be performed by the police at the nearest hospital. Such samples shall be preserved in accordance with Para 9.5 of this CAR.
- 9.4 For the purpose of the analysis, 5.0 ml of blood and 30 ml of the urine from the mid-stream must be taken and sent in air-tight/sealed glass vials/bottles. The samples must be drawn and sealed in the presence of a witness and handed over to the Head of Regional Air Safety Office for the detailed laboratory examination.

- 9.5 The most commonly used preservative is a combination of fluorides and oxalates. The composition is 10 mg of sodium or potassium fluoride and 3 mg of potassium oxalate per ml of the blood. The mixture shall be thoroughly shaken. Likewise the urine sample can be preserved by adding 10 mg Sodium or potassium fluoride per ml of the urine.
- 9.6 For the purpose of the chemical analysis, the sample may be forwarded to Director, L.N.J.N. National Institute of Criminology & Forensic Science, Rohini, Delhi along with the proforma given in Appendix IV.

10. PRESERVATION OF RECORDS

- 10.1 Separate records of PFMC and post flight medical check shall be maintained for the cockpit crew and the cabin crew. All the relevant records must be preserved for period of six months. For the BA positive cases, the format as given in Appendix II shall be used.

11. GENERAL

- 11.1 It shall be the responsibility of the operator to bring to the notice of its crew members, the provisions of this CAR during their annual refreshers and records maintained with the acknowledgement from each crew member.

(Arun Mishra)
Director General of Civil Aviation

Appendix I

SPECIFICATIONS OF BREATH ANALYSER EQUIPMENT

1. Fuel cell technology based incorporating integrated analysis and not peak analysis.
2. LED display with high visibility.
3. Audible tone to support displayed messaging system.
4. Minimum test memory of 1000 plus, with a facility of last test recall.
5. Automatic ejection system of mouth piece without requiring manual handling for hygiene reason.
6. Capable of being connected with printer by interface cable for utmost security of data transmission.

7. One way check valve mouth piece to eliminate the possibility of suck back of atmospheric air during sample capture.
8. Radio Frequency Interference (RFI) detector.
9. Temperature compensation for proper accuracy under all temperature conditions.
10. Protection from heating of fuel cell or any other components that would affect battery life.
11. Capable of redirecting subject breath at a right angle from the subject and away from the operator.
12. Capable to show quantity of breath sample exhaled and time duration of sample given.
13. Capable of functioning automatically during sampling without any manual intervention.
14. Capable of operating over a wide ambient temperature range.

Appendix II

**(Name of the Organisation)
Pre-Flight Medical Examination for Alcohol**

Sl. No.

To be filled by Cockpit/Cabin Crew (in Capital letters)

Name..... Flight No.....CPL/ATPL /FATA No.....

Emp. No.....Place.....Date.....Time.....Hrs.

I confirm that I am not under the influence of Alcohol.

.....Signature

To be filled up by the Medical Officer

- 1) Clinical Examination

2 a) Breath Analyser Result

Negative/Positive

2b) If found positive%BAC

3) Result of 2nd Test at.....hrs%BAC

Remarks: He/She is not under/under the influence of alcohol at present.

Signature of Witness
Time.....
Name and Designation

Signature of Medical Officer
Time.....
Name of Medical Officer

DRAFT

PRE-FLIGHT MEDICAL EXAMINATION FOR ALCOHOL

Place:.....

Date:

Name of the Doctor

NOTE: In case crew is tested 'Positive' in screening test, a separate Form is required to be filled up by the Doctor and countersigned by the witness.

Sl. No.	Flight No.	Name (in capital letters) of Pilot/Cabin Crew/AME	Staff No.	ATPL/CPL/AME Licence No.	Time of reporting	Signature of Crew Member 'I Confirm that I am not under the influence of Alcohol'	Clinical exam report Fit/Unfit	BAT Screening Reading % BAC	Time	Signature of Medical officer	Remarks

Appendix IV

NAME OF EXAMINATION REQUIRED

Memo No. /New Delhi Dated

.....
.....

Forwarded to the Director LNJN NICFS (MHA), Institutional Area, Rohini, Sector - 3,
New Delhi-110085.

Date
Officer

Signature of Forwarding

With Designation and Official Stamp

Specimen Seal impression on sealing
wax

CERTIFICATE

Certificate to be signed by a competent forwarding authority and forwarded to
the
Director, LNJN NICFS, Rohini, Sector-3, Delhi-
110085.

Certificate that the Asstt. Director LNJN NICFS, Rohini, Sector-3, Delhi-110085 has
the authority to examine the exhibits sent to him in connection with the accident to
aircraft Regn. No. on (date) at....., and if
necessary consume it for the purpose of the said examination.

Date:
and
Place:

Signature and Designation

Official stamp of Forwarding Officer