

SCREENING PROGRAMME FOR AIR CREW IN HONG KONG ON PSYCHOACTIVE SUBSTANCES

Guidance Booklet

In accordance with ICAO Document 9654

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**Civil Aviation Department
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CONTENTS

	Page
1. TERMINOLOGY	1
2. INTRODUCTION	2
3. LEGAL BACKGROUND	3
4. RESPONSIBILITIES	5
4.1 Civil Aviation Department, Hong Kong, China	5
4.2 Employers	5
4.3 Employees	6
5. FLIGHT SAFETY CONCERNS	7
6. SCREENING PROGRAMME	7
6.1 Testing	7
6.2 Whom to Test	7
6.3 Occasions for Testing	8
6.4 Method of Collection and Analysis	9
6.5 Psychoactive Substances to be tested	10
6.6 Testing Facilities	10
6.7 Positive Tests	10
7. TREATMENT AND REHABILITATION	11
7.1 Treatment	11
7.2 Rehabilitation	11
Annex A - Testing for Drugs and Alcohol	A – 1
Annex B - Threshold Levels of Psychoactive Substances	B – 1

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1. **TERMINOLOGY**

- 1.1 **Psychoactive substances** are currently defined as alcohol, opioids, cannabinoids, sedatives, hypnotics, cocaine, other psychostimulants, hallucinogens and volatile solvents. They may be a prescribed medicine, an over the counter medication or recreational substances and may be acquired legally or illegally. Nicotine and caffeine are excluded. The substances listed may change from time to time to reflect changes in the pattern of substances used in the general community.
- 1.2 **Problematic use of substances** is the use of one or more psychoactive substances in a way that:
- a) Constitutes a direct hazard to the user or endangers the lives, health or welfare of others; and/or
 - b) Causes or worsens an occupational, social, mental or physical problem or disorder.
- 1.3 **Aviation safety-sensitive personnel** are persons who might endanger aviation safety if they perform their duties and functions improperly. This definition includes, but is not limited to, flight crew members (pilots, flight engineers and flight navigators); cabin crew; aircraft maintenance personnel (including repair and inspection personnel); flight instructors; dispatchers; security screeners; ground security coordinators and air traffic controllers.

2. INTRODUCTION

- 2.1 Aviation regulations in Hong Kong are promulgated in accordance with International Civil Aviation Organisation (ICAO) Standards and Recommended Practices (SARP).
- 2.2 In accordance with ICAO Annex 1 on the use of alcohol and drugs in the aviation workplace and with guidelines set out in ICAO Document 9654 '*Manual on Prevention of Problematic Use of Substances in the Aviation Workspace*', the Civil Aviation Department, Hong Kong, China (CAD) is to introduce this guidance booklet to Air Operator's Certificate (AOC) holders for setting up a screening programme for aircrew against the problematic use of these substances. Such provisions on screening have already been implemented by some other aviation regulatory authorities.
- 2.3 In the first instance, AOC holders should instigate an education campaign which brings to the attention of employees, the responsibilities of working in an aviation environment and the need for a rigorous code of self-discipline where psychoactive substances are concerned.
- 2.4 With regard to the problematic use of these substances in aviation, Article 49 of Air Navigation (Hong Kong) Order (AN(HK)O) 1995 legislates against their improper use by any person on board, in particular the members of the crew of an aircraft.
- 2.5 The contents of this guidance booklet are mainly for aircrew. Nevertheless, CAD encourages all companies with staff that have direct or indirect effect upon aviation safety to adopt a screening programme for psychoactive substances based on the information contained in this document.
- 2.6 With the information provided in this guidance booklet, the AOC holders could develop a programme according to their needs. The experience gained in the implementation of such programme will facilitate the Hong Kong Government in the legislation of the requirements for screening of psychoactive substances on all aviation safety-sensitive personnel in future.

3. LEGAL BACKGROUND

3.1 ICAO sets out the SARP which are the basis for the safe conduct of civil aviation. CAD normally adheres to and implements these requirements.

3.2 Article 37 of the Convention on International Civil Aviation in relation to the Adoption of International Standards and Procedures states that:-

“Each Contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures and organisation in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation”.

3.3 Annex 1 of the Convention on International Civil Aviation stipulates that holders of licences shall not engage in any problematic use of psychoactive substances. Annex 1 further recommends that Contracting States should ensure, as far as practicable, that all licence holders who engage in any kind of problematic use of substances are identified and removed from their safety-sensitive functions. Return to such function may be considered after successful rehabilitation.

3.4 Article 49(1) of the AN(HK)O 1995 states that:

“A person shall not embark on an aircraft when under the influence of psychoactive substances, or be under the influence of psychoactive substances on board an aircraft, to such an extent as to jeopardise, or be likely to jeopardise -

(a) the safety of the aircraft or of persons or property on board the aircraft; or

(b) good order and discipline on board the aircraft.”

3.5 Article 49(2) of the AN(HK)O 1995 states that:-

“A person shall not, when acting as a member of the crew of any aircraft or being carried in any aircraft for the purpose of so acting, be under the influence of psychoactive substances to such an extent as to impair his capacity so to act.”

3.6 Article 49(3) of the AN(HK)O 1995 states that:

“A holder of a licence granted under this Ordinance authorising the holder to act as a member of the crew of an aircraft shall not engage in the use of psychoactive substances in a way that -

(a) constitutes a direct hazard to the user or endangers the lives, health or welfare of others; or

(b) causes or worsens an occupational, social, mental or physical problem or disorder.”

3.7 Articles 49(2) and 49(3) of the AN(HK)O 1995 put the focus on the responsibility of flight and cabin crew. However, it is recognised that there are other personnel, who may not be covered by legislation, have the potential to directly affect aviation safety.

3.8 This guidance booklet outlines the framework to AOC holders on the identification and prevention of the problematic use of psychoactive substances in the aviation working environment. That said, the corresponding education to the employees as well as the treatment and rehabilitation opportunities can also be integrated in the screening programme. Furthermore, the provisions in this document may be used as a reference for the establishment of similar programmes for aviation safety-sensitive personnel other than aircrew.

4. RESPONSIBILITIES

4.1 Civil Aviation Department, Hong Kong, China

- 4.1.1 It is a joint responsibility amongst CAD, the aviation-related organisations and their employees to ensure that aviation in Hong Kong is free from the potential threat to aviation safety posed by the problematic use of psychoactive substances. This booklet constitutes CAD's initiative in publicising the guidelines for establishing a programme on prevention of problematic use of psychoactive substance within AOC holders, which are currently employing groups of flight and cabin crew.
- 4.1.2 CAD encourages AOC holders to adopt education and screening programmes relating to the elimination of the problematic use of psychoactive substances in the aviation working environment. A screening programme instituted under this guidance booklet contains no compulsion, and therefore the core content inherent in such programme will be the need to educate employees (i.e. flight and cabin crew under the context of this document) on the adverse effect of the problematic use of psychoactive substances, and on the importance of voluntarily submission (i.e. with explicit consent) to any required testing.
- 4.1.3 Following an aircraft accident or serious incident occurred within the geographic boundaries of the Hong Kong Special Administration Region (SAR) or for Hong Kong registered aircraft over international waters, CAD will be responsible for the investigation, hence the administration of drug and alcohol testing of persons who may have had significant influence upon the occurrence. This will include the processing of tests undertaken in relation to such accidents/serious incidents.
- 4.1.4 Accidents and serious incidents occurred in foreign State will fall under the jurisdiction of the investigation authority of the State of Occurrence. Such authority will be responsible for the decision on the necessity of requiring tests for psychoactive substances for the persons involved.

4.2 Employers

- 4.2.1 As the first priority, employers (i.e. AOC holders under the context of this document) should have in place a programme designed to educate crew members with regard to the unacceptability of the problematic use of psychoactive substances in aviation, the responsibility of individuals in this respect and the need to eliminate their problematic use.

4.2.2 Employers have the responsibility to consider adopting drugs and alcohol screening in the pre-employment selection procedures for flight and cabin crew. Depending on the circumstances and where appropriate, the responsibility of carrying out random testing, testing based upon reasonable suspicion and screening of cases following rehabilitation also rests with the employers. The cost of processing such tests should be borne by the associated employer.

4.2.3 This document provides guidelines to assist employers in formulating their own company policy and practice on the prevention and elimination of the problematic use of psychoactive substances. At present there is no legal requirement in place mandating screening programmes. Therefore the employer and the air crew under its employment should, where possible, explore ways to ensure proper implementation of the programme.

4.3 **Employees**

4.3.1 All persons employed in aviation safety-sensitive occupations, (i.e. flight and cabin crew under the context of this document) should be continually aware of the heavy burden of responsibility such employment carries.

4.3.2 It is the responsibility of the aforementioned individual to ensure that he/she does not report for duty nor carry out duties if he/she is unfit to do so. In the context of this document, the unfitness relates to being under the influence of any psychoactive substance. Employees and applicants for employment in aviation safety-sensitive occupations should therefore declare any use of such substances.

5. FLIGHT SAFETY CONCERNS

- 5.1 Consumption of drugs and alcohol may lead to errors, slow or incorrect judgement or decisions, poor cognitive function, slow reaction times, mood changes, poor coordination, tracking or concentration, risk-taking behaviour and/or inappropriate actions. Some adverse effects can persist for several days. All these have clear implications on flight safety.
- 5.2 Within the aviation industry, safety awareness is inculcated in nearly all types of training and this should form the foundation of education programmes with regard to the dangers of psychoactive substances in the aviation workplace. The promotion of safety awareness or in other word, the safety culture, will also enable the early recognition and detection of signs of problematic use of psychoactive substances by co-workers and management and the need, in certain circumstances, for testing.
- 5.3 Self-appraisal and self-discipline should also be encouraged. The elimination of the problematic use of psychoactive substances in the workplace by those in 'safety-sensitive' posts, particularly by the flight and cabin crew, should be the aim at all levels - from the boardroom to the shop floor - if credibility is to be maintained.

6. SCREENING PORGRAMME

6.1 Testing

- 6.1.1 Before embarking upon a drug screening/testing programme, it is important to clearly define the objectives, make sampling procedures foolproof, ensure that the limitations of sample tests are fully understood, decide exactly how the results of testing will be used and ensure that the results are handled in a responsible manner. In addition, an appeal mechanism should be in place to prevent any flaws in handling of the specimens or to accept legitimate explanation for any positive result. In conjunction with the facility carrying out the assays of specimens, the 'cut off' levels of concentration of psychoactive substances below which an analysis will not be considered 'positive' should be agreed (see Annex B).

6.2 Whom to Test

- 6.2.1 Current legislation applies to flight crew and cabin crew, who are not permitted to act in their respective capacities if their capability is impaired by the influence of drugs or alcohol. This could arise from the abuse of alcohol, from medication either prescribed by a physician, or available from other sources or from the use of recreational drugs.

6.2.2 Companies employing flight and cabin crew are encouraged to adopt drugs and alcohol screening programmes. At present, such programmes rely upon the mutual agreement between the employer and the employees, i.e. the individual's consent of voluntarily submitting to testing when required.

6.3 Occasions for Testing

6.3.1 For the most part, the occasions when testing for drugs and/or alcohol and/or are required should be self evident. Insofar as the categories of personnel listed at paragraph 6.2 are concerned, testing should be undertaken on the following occasions:

- i) Pre-employment
- ii) Post accident / serious incident
- iii) Reasonable suspicion
- iv) Return to duty
- v) Follow up (for a certain period after rehabilitation)
- vi) Random

6.3.2 **Pre-Employment Testing** should be administered during the pre-employment selection of crew members. Only after the employer receives a negative drug test result may employees begin performing any aviation safety-sensitive duties.

6.3.3 **Post-Accident/Serious Incident Testing** will be administered on the personnel involved in an aircraft accident or serious incident as defined in ICAO Annex 13.

6.3.4 **Reasonable Suspicion Testing** is conducted when there is a reasonable and articulable belief that a person may be under the influence of a psychoactive substance whilst at work. A decision to test must be based on reasonable observations of specific physical, behavioural or performance indicators that are usually associative with psychoactive substance use. The co-workers and supervisors should be educated on the physical signs and symptoms or patterns of performance and/or behaviour associated with problematic use of substances and the need to recognise and report these.

- 6.3.5 **Return to Duty Testing** should be performed on the personnel prior to their return to duties, following a positive test result or after successful completion of rehabilitation treatment. The purpose of the testing is to ensure that the employee is psychoactive substance free before being reinstated in aviation safety-sensitive duties.
- 6.3.6 **Follow-up Testing** should be conducted to ensure that the concerned personnel should remain abstinent from psychoactive substances following successful rehabilitation treatment. Follow-up testing should be unannounced and for a minimum period of two years following rehabilitation.
- 6.3.7 **Random Testing** is performed on the personnel selected by chance on an unannounced basis. Testing should be performed immediately upon notification of the person. Random testing has an implied deterrent role to usage by virtue not only of being random and occurring without warning, but also because statistical data confirms that it is the most likely form of on the job testing to reveal drugs and alcohol usage. Employers must use a truly random selection process. Each employee subjected to random testing should have an equal chance to be selected and tested. With the controversial nature of random testing, the employer is strongly suggested to consult the flight and cabin crew representatives. Regardless, the employer bears the responsibility of ensuring compliance of all applicable legal requirements for the implementation of the random testing arrangements.

6.4 **Method of Collection and Analysis**

- 6.4.1 The following specimens are commonly used when testing for psychoactive substances: breath, urine, hair, saliva and blood.
- 6.4.2 “Evidential Breath Test” (EBT) is recommended for alcohol testing as it is non-invasive, provide immediate results and is scientifically and legally acceptable for workplace testing.
- 6.4.3 Urine is recommended for drug testing as it is non-invasive and has formed the mainstay of workplace drug testing since its introduction. Saliva and hair testing may also be used as alternative if required.
- 6.4.4 To ensure accuracy and fairness of testing by an employer, all collection, testing and analysis should be conducted in a manner consistent with established workplace drugs and alcohol testing standards. Testing procedures should include the following:
 - 6.4.4.1 Screening Test - The present analytical method utilised for routine screening would normally be Immunoassay analysis due to its general application and favourable cost. Any positive result determined by such a test should be confirmed by a second, different method of assay.

6.4.4.2 Confirmative Test – Gas Chromatography /Mass Spectrometry (GS/MS) is normally used to confirm the preliminary result from the screening test. (Use of this as an initial method would be applicable in situations where there is an immediacy requirement for testing and for obtaining results, such as that following an aircraft accident.)

6.4.4.3 Built-in Appeal System - Employees who are tested positive should have an opportunity to provide a legitimate medical explanation. Verification should rely on the medical practitioner who has received training on Medical Review Officer (MRO) or experience in diagnosing and treating substance use disorders.

6.4.4.4 The procedures should follow a documented chain of custody which should be made clear to all concerned parties in the screening programme.

6.5 Psychoactive Substances to be tested

6.5.1 Tests are to determine the presence of Alcohol, Opiates, Cocaine, Cannabinoids, Amphetamines/Methamphetamines, Barbiturates, Benzodiazepines, Methadone, Morphine, Ketamine, Phencyclidine and any other substance thought to have been used, such as Hallucinogens (see Annex A). The amounts of detected psychoactive substances below certain level, exactly defined levels which have been determined at the outset of the programme, should be disregarded.

6.6 Testing Facilities

6.6.1 Premises intended to be used for the taking of samples, the procedures to be followed (including the chain of custody), and the laboratories at which analysis is to be made, should all be appropriately equipped and accredited.

6.7 Positive Tests

6.7.1 The personnel who are tested positive should be removed from aviation safety-sensitive duties with immediate effect. The employer should report all confirmed positive tests to CAD.

6.7.2 If there is any evidence to suggest that a breach of law (e.g. Article 49 of the AN(HK)O 1995, see Section 3 above) may be involved, CAD and/or other law enforcement agencies will further investigate and may take the necessary legal actions. Otherwise, action following confirmation that any of the threshold levels listed in Annex B has been exceeded lies with the employer. Nevertheless, under the spirit of ICAO Document 9654, options as detailed in Section 7 below should be considered.

7. TREATMENT AND REHABILITATION

7.1 Treatment

7.1.1 Once the employee is identified as engaging in problematic use of psychoactive substance, he/she should be assessed to determine the nature of the condition. Ideally, the assessment should be conducted by a medical professional with experience in diagnosing and treating substance use disorders. Treatment and rehabilitation may be required in response to specific symptoms and behaviour. It can include pharmacotherapy, psychotherapy and various measures, depending on the condition and the clinician's determination of the required course of therapy.

7.2 Rehabilitation

7.2.1 The goal of rehabilitation is to establish and maintain a new substance-free life in a normal working environment, along with optimal health, mental functioning and social well-being.

7.2.2 For a crew member to return to flying duties or any aviation safety-sensitive position following rehabilitation, he/she should have been in a stable condition for a reasonable period of time and should be considered fit and safe by a qualified medical practitioner trained in aviation medicine. To guard against relapse, the crew member concerned should be subjected to a long-term monitoring programme, which should include periodic testing for a minimum of two years post-rehabilitation.

7.2.3 The conflict between problematic use of psychoactive substances and aviation safety demands that no crew members should be permitted to return to flying duties or any aviation safety-sensitive position without being certified by the Approved Medical Assessor (AMA) as fit for duties again.

Annexes:

- A. Testing for Drugs and Alcohol
- B. Threshold Levels of Psychoactive Substances

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TESTING FOR DRUGS AND ALCOHOL

1. Before a drugs and alcohol screening programme is embarked upon, it is important to clearly define the objectives, make sampling procedures foolproof, ensure that the limitations of the assays are fully understood and the test positive 'cut-offs' properly defined, decide exactly how the results will be used and ensure that the results are handled in a thoughtful, secure and responsible manner.

2. Drugs to be tested for should include (but not be limited to) the followings:
 - (a) Pre-employment Testing

Opiates, Cocaine, Cannabinoids and Amphetamine/ Methamphetamine

 - (b) Reasonable Suspicion Testing

Those drugs listed in (a) above plus Alcohol, Barbiturates, Benzodiazepines, Methadone, Morphine, Ketamine, Phencyclidine and any other substance thought to have been used, such as Hallucinogens.

 - (c) Post Accident / Serious Incident Testing

As in (b) above

 - (d) Return to Duty Testing

As in (b) above

 - (e) Follow-up Testing

As in (b) above

 - (f) Random Testing

As in (b) above

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THRESHOLD LEVELS OF PSYCHOACTIVE SUBSTANCES

	SCREENING	CONFIRMATORY
Alcohol	Equivalent blood concentration of 0.02 or greater (20mg per 100ml)	Equivalent blood concentration of 0.02 or greater (20mg per 100ml)
Opioids	2000 ng/ml	2000 ng/ml
Cannabinoids	50 ng/ml	15 ng/ml
Benzodiazepines	300 ng/ml	100 ng/ml
Cocaine Metabolites	150 ng/ml	100 ng/ml
Amphetamine/ Methamphetamine/ MDMA/MEDA/MDMA	500 ng/ml	250 ng/ml
Ketamine and its Metabolites	1000 ng/ml	100 ng/ml
Phencyclidine	25 ng/ml	25 ng/ml

- Notes:** (i) The stated levels reflect evidence of intentional and recent use of the substances listed above.
- (ii) Threshold levels sources:
- a. U.S. Substance Abuse and Mental Health Services Administration (SAMHSA);
 - b. U.S. National Institute of Drug Abuse (NIDA);
- (iii) If the screening test shows a positive result, a subsequent confirmation test will follow.

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