



Civil Aviation Authority

DRUGS & ALCOHOL MANAGEMENT PLAN (DAMP) GUIDANCE MANUAL

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1. GUIDANCE PUBLICATION

INFORMATION AND POLICY REGARDING IMPLEMENTATION OF DRUG AND ALCOHOL TESTING.

NOTE 1: *Anyone who wishes to implement a substance abuse plan should first obtain the advice of legal counsel.*

Note 2: *Not all employers will select all of the options outlined in this manual. It is important that you read every section carefully and decide whether it applies to your particular program.*

1.1. Introduction

The aviation industry has a unique responsibility in regards to the safety sensitive activities of aviation workers, employers, whereby regulators and governments need to provide protection for public safety and prevent harm through drugs and alcohol abuse which has the potential hazard for creating mental and physical problems in the user and for public safety. The use of such substances may negatively affect the performance of safety-related aviation duties and has the potential for doing harm. Accordingly, the CAA has decided to implement a drug and alcohol testing plan which emphasizes both deterrence and detection of abuse and so prevents the problematic use of substances of abuse by aviation workers which threaten safety in the aviation workplace

1.2. Purpose

This CAA Guidance Manual provides information and guidance regarding the introduction of Alcohol and drug testing plans in aviation industry which is supported by the legislative instrument of CAR-99 – Drugs and Alcohol Management Plan.

1.3. Status of This Guidance

This is the first edition of the Drugs and Alcohol Management Plan, it will remain effective unless withdrawn or superseded. This document involves the adoption of ICAO Annex 1 recommendation to the Contracting States to ensure that all license holders who engage in any kind of problematic use of substances are identified and removed from their safety-critical functions or safety sensitive aviation activities (SSAA).

1.4. Applicability

(1) This Regulation provides for:

- (a) the development, implementation and enforcement of drug and alcohol management plans covering persons who perform, or are available to perform, an applicable SSAA; and
- (b) drug and alcohol tests for persons who perform, or are available to perform, an applicable SSAA, including the following:
 - i. the approval of testers to conduct drug and alcohol tests;
 - ii. the approval of devices for use in conducting drug and alcohol tests;
 - iii. identity cards for approved testers;
 - iv. the conduct of drug and alcohol testing;
 - v. the variation, suspension and cancelling of civil aviation authorisations and authorisations of approved testers.
- (c) offences relating to drug and alcohol management plans and drug and alcohol testing.

1.5. References

- (a) ICAO Manual on Prevention of Problematic use of Substance in the Workplace (Doc 9654-AN/945) first edition, 1995).
- (b) Department of Transportation (DOT), (USA) rule, 49 CFR Part 40, Procedures for Transportation Workplace and Alcohol Testing programs
- (c) United States Department of Health and Human Services (Mandatory guidelines, published by Substance Abuse and Mental Health Services Administration)
- (d) Pilot Medical Solutions (FAA Medical certification and Drug testing)
- (e) Health and Safety Executive, UK
- (f) Drug Testing Information Manual (Prevent, Integrated drug testing solution)
- (g) Toxicological findings from 1587 civil aviation accident pilot fatalities, 1999, 2003, (Aviation, Space and Environmental Medicine. Vol. 76, No. 12. December 2005).
- (h) Virtual Flight Surgeon, medical articles

1.6. Definitions

Adulterated specimen

Refers to a sample of bodily fluid (typically urine) that contains a substance that is not expected to be present, or contains a substance expected to be present but is at a concentration so high that it is not consistent with typical results. Adulteration of urine specimens is common, while adulteration of saliva / oral fluid or hair specimens more difficult, if not improbable. Also, can be used synonymously with substitution. A sample that is drug free that is substituted for the donor's sample at or after the time of collection is also referred to as an adulterated specimen.

Air blank

May be used in evidential breath testing devices (EBTs) using gas chromatography technology, and refers to the reading of the device's internal standard. In many EBTs, simply a reading of ambient air containing no alcohol.

Alcohol

Is the intoxicating agent in beverage alcohol, ethyl alcohol or other low molecular weight alcohols, including methyl or isopropyl alcohol?

Alcohol concentration

Is alcohol in a volume of breath expressed in terms of grams of alcohol per 210 liters of breath as indicated by a breath test, or as a concentration of nanograms per milliliter for saliva or blood alcohol tests.

Alcohol confirmation test

Is a subsequent test using an EBT, following a screening test with a result of a specified concentration (0.02, .04, etc.) or greater, that provides quantitative data about the alcohol concentration.

Alcohol use

Is the drinking or swallowing of any beverage, liquid mixture or preparation (including any medication), containing alcohol.

Breathalyzer

Is a device for estimating blood alcohol content (BAC) from a breath sample.

Cancelled Test / Invalid Test,

A drug or alcohol test which has a problem identified that cannot be or has not been corrected. A cancelled test is not a positive or a non-negative, or a negative test. An example is an on-site test, in which the control line is not present within the requisite time period.

Chain of custody

Refers to the procedure used documentation and the handling of a drugs-of-abuse specimen (typically required for confirmation of non-negative on-site tests or laboratory-based screening tests) from the time the employee donates a specimen to the collector until the specimen is destroyed. Certain screening tests, such as on-site oral fluid-based test for drugs of abuse or alcohol do not require a chain of custody procedure unless a confirmatory test is needed. The Drug Testing Custody and Control Form (CCF) are used.

Chain-of-Custody for Breath Alcohol Testing

Breath alcohol determination that is printed on the breath testing instrument after testing is completed.

Collection container

A vial or cup use to contain a sample specimen (oral fluid, urine, blood hair, etc.) for a subsequent test procedure typically associated with laboratory based tests and/or confirmation drug tests.

Collection site

Is a designated location selected by the employer or perspective employer, where employees or applicants present themselves for the purpose of providing a specimen (typically only used for urine based, or blood-based tests) for a drug test and/or alcohol test.

Collector

A person who instructs and assists employees at a collection site and who receives and makes an initial inspection of the specimen, provided by the employees and who initiates and who may initiate chain of custody of documentation

Confirmatory, or Confirmation Drug test

is typically a laboratory analytical procedure, using GC/MS, gas chromatography / mass spectrometry equipment and associated procedures, performed on a specimen (oral fluid, urine, blood hair, etc.) to identify and quantify the presence of a specific drug or drug metabolite.

CCF

Custody and Control Form – It accompanies specimens sent to a testing laboratory.

DER

Designated Employer Representative who can remove or cause removal of an employee from safety-sensitive duties in the event of a drug or alcohol testing rule violation.

Dilute/Diluted specimen

A urine specimen with creatinine and specific gravity values that are lower than expected for human urine.

Note: hair and saliva samples are typically not diluted.

Employee

Any person who is working for hire for a public or private institution and potentially subject to drug testing and/or alcohol testing. Drug testing may be done on a random basis for all employees, for employees working in safety sensitive positions, in cases of reasonable suspicion, return-to-duty situations, as well as for applicants for employment (pre-employment testing).

Evidential Breath Test device (EBTs)

A testing device (with printer) which shall be used for confirmatory testing if a screening test is positive. EBTs can be used for both screening and confirmatory testing.

GC/MS Testing

Gas chromatography-mass spectrometry is a method that combines the features of gas-liquid chromatography and mass spectrometry to identify different substances within a test sample. The GC/MS has been widely heralded as a " gold standard" for forensic substance identification

because it is used to perform a specific test. A specific test positively identifies the actual presence of a particular substance in a given sample.

Immunoassay

is a biochemical test that measures the level of a substance in a biological liquid, typically serum or urine, using the reaction of an antibody or antibodies to its antigen. The assay takes advantage of the specific binding of an antibody to its antigen.

Initial drug test/screen

The test used to differentiate a negative specimen from one that requires further testing for drugs or drug metabolites; examples include on-site saliva or urine tests.

Initial validity test

The first test used to determine if a specimen is adulterated, diluted, or substituted.

Invalid drug test/screen

For laboratory-based tests: a drug test for a specimen (urine, saliva, hair, blood, etc.) that contains an unidentified adulterant or an unidentified interfering substance, has abnormal physical characteristics, or has an endogenous substance at an abnormal concentration that prevents the laboratory from completing or obtaining a valid drug test result. For on-site tests: tests that fail to produce a control line or otherwise are observed to be inoperable within the specified time limit.

Laboratory (Certified Laboratory)

Any Sultanate of Oman laboratory certified by MOH and by the CAA as meeting the minimum standards of the Mandatory Guidelines for Workplace Drug Testing Programs or, in the case of foreign laboratories, a laboratory approved by similar guidelines / processes.

Medical Review Officer (MRO)

A person who is a licensed physician and the “gatekeeper” of the testing process, responsible for review of CCFs, receiving and reviewing laboratory/confirmatory testing results generated by an employer's drug testing program and evaluating medical explanations for certain drug test results. The MRO shall interview a donor with Positive, Adulterated, Substituted and Invalid tests and advise employers when safety or medical qualification is an issue.

Oral Fluid

Oral fluid consists primarily of secretions from the submaxillary (65%), parotid (23%), and sublingual (4%) glands. Drugs of abuse detection windows / times are similar to those for blood samples (Huestis and Cone). Oral fluid normally contains the parent drug rather than drug metabolites, as a most commonly detected in urine.

Pre-employment testing

Is a program applied consistently to either all applicants or applicants in positions defined as safety sensitive aviation activity (SSAA).

Post-accident (or unsafe-practice) testing

Can reduce a company's workers' compensation expenses. Essentially, a company establishes a published policy that all employees involved in a workplace accident shall be tested for drugs-of abuse and alcohol. Oftentimes, if an employee is found to be under the influence, he or she will become ineligible for worker's compensation and/or medical benefits.

Psychoactive drug or psychotropic substance

Is a chemical substance that acts primarily upon the central nervous system where it alters brain function, resulting in temporary changes in perception, mood, consciousness and behavior. These drugs may be used recreationally to purposefully alter one's consciousness, as entheogens for ritual or spiritual purposes, as a tool for studying or augmenting the mind, or therapeutically as medication. Psychoactive substances considered in this document are: alcohol, opioids,

cannabinoids, sedatives and hypnotics, cocaine, other stimulants, hallucinogens, and volatile solvents. The document does not consider tobacco or caffeine.'

Saliva

Oral fluid consisting primarily of secretions from the submaxillary (65%), parotid (23%), and sublingual (4%) glands. Drugs of abuse detection windows/times are similar to those for blood samples (Huestis and Cone). Normally contains the parent drug rather than drug metabolites, (as a most commonly detected in urine?)

Problematic use of substances or problematic substance use

Is the use of one or more psychoactive substances by aviation personnel 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.

Random testing

Is conducted by randomly selecting a specified percentage / subset of the employee population, and /or a percentage the employee population at established intervals (i.e. "frequency"- monthly, quarterly, and annually, etc.) for drugs-of-abuse testing. This method encourages employees to remain drug free

Reasonable suspicion testing

Occurs when an employer has reason to believe that an employee is under the influence. Suspicious behaviors such as poor job performance, tardiness, smelling of marijuana or other substances, or reports from witnesses that an employee is using drugs all typically constitute reasonable terms for testing.

Service agent

Any person or entity, other than an employee of the employer, who provides services to employers and/or employees in connection with drug and alcohol testing requirements. This includes, but is not limited to, collectors, BATs, laboratories, MROs, and Substance Abuse Professionals (see below).

Safety-sensitive Aviation Activities (SSAA) employees

A person who might endanger aviation safety if they perform their duties and functions improperly. This definition includes, but not limited to, technical aircrew, cabin crew, aircraft maintenance personnel, and air traffic controllers.

Split Specimens

The specimen is divided into two collection bottles in the presence of the candidate or employee and collection site person. Thirty milliliters in specimen Sample A container and approximately fifteen milliliters in specimen Sample B container. One collection bottle remains sealed and analyzed only if the candidate or employee requests retest by an independent CAA Certified laboratory.

Substance Abuse Professional

An SAP can be a doctor, social worker, psychologist or EAP who evaluates employees who have violated drug and alcohol regulations. He/she makes recommendations concerning abuse education/treatment, follow-up testing and aftercare. He/she also protects the public interest in safety.

Substituted specimen

A specimen, typically encountered with urine specimens, which are not from the originally donor, and provided in order to falsely "pass" drug of abuse tests.

Verified Positive Test Result

Means a test result that was positive on an initial immunoassay test, confirmed by a Gas Chromatography/Mass Spectrometry assay, and reviewed and verified by the Medical Review Officer.

2. CHAPTER 2- COMPANY POLICY

2.1. General

All operators, small and large shall prepare a policy on drug misuse, and this policy shall form part of the organization's overall health and safety plan. The Drugs and Alcohol Management Plan (DAMP) shall be widely communicated and shall be available to all the staff. Details of the DAMP and its implications shall be covered in induction training.

2.2. Requirements for Drug and Alcohol Testing

- (1) For CAR-99.045(b)(ii), the DAMP shall meet the following requirements:
 - (a) that any testing done under the organisation's DAMP will be conducted as follows:
 - i. for breath alcohol testing — using a device that meets the Standard mentioned in paragraph (a) of the definition of relevant Standard, or a device that meets the Standard mentioned in paragraph (b) of that definition;
 - ii. for oral fluid testing — in accordance with the Standard mentioned in paragraph (c) of the definition of relevant Standard;
 - iii. for urine testing — in accordance with the Standard mentioned in paragraph (d) of the definition of relevant Standard;
 - (b) that drug and alcohol testing of SSAA employees under the DAMP will be conducted in the circumstances set out in paragraph (2).
- (2) For paragraph (1)(b), the circumstances in which drug and alcohol testing will be conducted on SSAA employees are as follows:
 - (a) when a person first joins the DAMP organisation, if the person will be working as a regular SSAA employee, or when an employee whose role in the organisation is to change to that of a regular SSAA employee on or after the commencement date, unless:
 - i. the employee has been drug and alcohol tested; and
 - ii. the tests were conducted less than ninety (90) days before the employee is required to begin performing or being available to perform an applicable SSAA; and
 - iii. each of the test results was not a positive result;
 - (b) after an accident or serious incident involving a SSAA employee that occurs while he or she is performing, or available to perform, an applicable SSAA, if suitable test conditions exist;
 - (c) if a DAMP supervisor has reasonable grounds to believe that a SSAA employee may be adversely affected by a testable drug or by alcohol while performing, or available to perform, an applicable SSAA;
 - (d) if a SSAA employee is returning to work after a period during which the employee was not permitted, under CAR-99.065(1)(c), (d) or (e), to perform or be available to perform an applicable SSAA because of testable drug use.

Drug test results under DAMP

- (3) A positive result for a confirmatory drug test conducted on a body sample under a drug and alcohol testing program mentioned in CAR-99.045(b)(ii), is taken not to be a positive result for the sample if a DAMP medical review officer has determined that the test result for the sample could be the result of legitimate therapeutic treatment or some other innocuous source.

2.3. Substance abuse plan (DAMP) should cover the following:

- (a) Outline who is covered by the DAMP – it should apply to all staff in the organization, in safety sensitive aviation activities (SSAA).
- (b) A clear definition of substance abuses and prohibited activities and also addresses the use of drugs (whether prescribed or over-the-counter) for appropriate medical purposes, if the use of such drugs in the workplace poses a risk to aviation safety, to the employee himself or to his coworkers.
- (c) The consequences of a breach of the policy, as substance abuse, should be considered primarily a health issue. An employee in breach of the policy may be considered for rehabilitative treatment. The availability of rehabilitation opportunity is purely company choice or decision.
- (d) A system for dealing with any breaches - Disciplines.
- (e) It is essential that any staff involved in the implementation of a substance abuse policy are fully trained and are aware of the all the issues involved.
- (f) Procedure for drug and alcohol testing.

The CAA strongly recommends taking external advice and guidance from occupational health physicians and specialists in employment law before introducing such processes. For sample of company policy, refer to Appendix A.

3. CHAPTER 3- EMPLOYEE EDUCATION/AWARENESS

The CAA will distribute educational material and awareness for crewmembers and ATCs about drug testing and its consequences (Appendix 2). All Operators are required to establish an ongoing drug-free awareness program

3.1. Objectives of Drug and Alcohol testing program

- (a) The Operator shall offer drug education to all employees. Drug education shall include education and training to all levels of the company on:
- (b) Types and effects of drugs; dangers caused by alcohol and drug abuse in workplace.
- (c) Symptoms of drug use, and the effects on performance and conduct; this includes educating the individuals about the typical warning signs of drug and alcohol abuse in order to identify any individual with a substance abuse problem and how to report their concern to the appropriate individual to take an action.
- (d) Company policy and activities that will be used to maintain a drug-free workplace.
- (e) The penalties that will be imposed on employees who violate the drug-free workplace policy which will follow company personnel policy or the CAA decision, depending on the individual cases, and
- (f) Other relevant treatments, drug counseling, rehabilitation, employee assistance programs and confidentiality issues.

3.2. Means of Education

Drug education activities may include:

- (a) Distribution of written materials;
- (b) Videotapes;
- (c) Lunchtime employee forums; and
- (d) Employee drug awareness days.

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4. CHAPTER 4- SPECIAL DUTIES AND RESPONSIBILITIES

4.1. Drug Program Coordinator

Each operator shall have a “Drugs and Alcohol Management Plan Coordinator” assigned to carry out the purposes of this Drugs and alcohol manual procedure. The DAMP Coordinator shall be responsible for implementing, directing, administering, and managing the drug program within the operator. The DAMP Coordinator shall serve as the principal contact with the laboratory and for collection activities in assuring the effective operation of the testing portion of the program. In carrying out his responsibilities, the DAMP Coordinator shall, among other duties:

- (a) Arrange for all testing required by the CAA;
- (b) Ensure that all employees subject to random testing receive individual notice prior to implementation of the program, and that such employee's return a signed acknowledgment of receipt form;
- (c) Document, through written inspection reports, all results of laboratory inspections conducted;
- (d) Coordinate with and report to the CAA on DAMP Coordinator activities and findings that may affect the reliability or accuracy of laboratory results;
- (e) If the implementation of this order is done by a service agent, the DAMP coordinator is responsible to ensure that all CAA requirements are met in this regards.

4.2. Medical Review Officer

4.2.1. General Information

A Medical Review Officer (MRO) is a person who is a licensed physician and who is responsible for receiving and reviewing laboratory results generated by an employer's drug testing program and evaluating medical explanations for certain drug test results. The MRO, act as an independent and impartial "gatekeeper" and advocate for the accuracy and integrity of the drug testing process. He provides quality assurance review of the drug testing process for the specimens, determine if there is a legitimate medical explanation for laboratory confirmed positive, adulterated, substituted and invalid drug test results, ensure the timely flow of test result and other information to employers and protect the confidentiality of the drug testing information.

The MRO perform an important function in the CAA safety program, as such, it is important for the MRO to fully understand the regulations. Therefore, the MRO should familiarize himself with CAA policy regarding the Drug testing and CAR-99.

The MRO fulfills the legal and policy requirements that cannot be fulfilled by technology, and provide a degree of technical oversight of the process and are the appropriate interface between the employer and the donor.

4.2.2. Requirements to act as an MRO

To be qualified to act as an MRO for drug testing program, the person shall be a licensed physician, have basic knowledge in the drug testing program and have clinical experience in controlled substances abuse disorders, including detailed knowledge of alternative medical explanations for laboratory confirmed drug test results, shall be knowledgeable about issues relating to adulterated and substituted specimens as well as the possible medical causes of specimens having an invalid result. They shall be knowledgeable about this Drugs and Alcohol procedure, and shall keep current on any changes to these materials.

- (a) **Credentials.** The MRO shall be a licensed physician (Doctor of Medicine). If the MRO is a licensed physician in Sultanate of Oman and meet the other requirements for his designation, he will be authorized to perform MRO services with respect to all covered employees, wherever they are located.
- (b) **Basic knowledge.** The MRO shall be knowledgeable in the following areas:
 - (1) Has clinical experience in controlled substances abuse disorders, including detailed knowledge of alternative medical explanations for laboratory confirmed drug test results.
 - (2) Issues relating to adulterated and substituted specimens as well as the possible medical causes of specimens having an invalid result.
 - (3) Knowledge about CAA regulations and Alcohol and drug guidelines and he/she shall keep current on any changes to these materials.
- (c) **Qualification training.** The MRO shall receive qualification training which shall provide instruction on the following subjects:
 - (1) Collection procedures for urine specimens;
 - (2) Chain of custody, reporting, and recordkeeping;
 - (3) Interpretation of drug and validity tests results;
 - (4) The role and responsibilities of the MRO in the drug testing program;
 - (5) The interaction with other participants in the program (e.g., DERs, SAPs); and
 - (6) Provisions of this CAA rules and guidelines applying to employers for whom he reviews test results, including changes and updates to the rules, guidance, interpretations, and policies affecting the performance of MRO functions, as well as issues that MROs confront in carrying out their duties.
- (d) **Continuing Education-** During each three-year period from the date of designation, he shall complete continuing education consisting of at least ten (10) professional development hours (CPD) (e.g. Continuing Education Medical Units) relevant to performing MRO functions. This continuing education shall include material concerning new technologies, interpretations, recent guidance, rule changes, and other information about developments in MRO practice, pertaining to the CAA program, since the time you met the qualification required for designation.

4.2.3. Responsibilities of the MRO's in the CAA drug testing program

- (a) Acting as an independent and impartial "gatekeeper" and advocate for the accuracy and integrity of the drug testing process.
- (b) Providing a quality assurance review of the drug testing process for the specimens under his purview. This includes, but is not limited to:
 - (1) Ensuring the review of the CCF on all specimen collections for the purposes of determining whether there is a problem that may cause a test to be cancelled. Laboratory internal chain of custody documentation not required to be reviewed.
 - (2) Providing feedback to employers, collection sites and laboratories regarding performance issues where necessary; and
 - (3) Reporting to and consulting with the CAA AMI when he wishes assistance in resolving any program issue. The employer or service agent, are prohibited from limiting or attempting to limit the MRO's access to the CAA for this purpose and from retaliating in any way against an MRO for discussing drug testing issues with the CAA.

- (c) The MRO shall determine whether there is a legitimate medical explanation for confirmed positive, adulterated, substituted, and invalid drug tests results from the laboratory.
- (d) The MRO shall not establish a doctor-patient relationship with the employees whose tests the MRO review
- (e) He shall act to investigate and correct problems where possible and notify appropriate parties (e.g., CAA, employers, service agents) where assistance is needed, (e.g., cancelled or problematic tests, incorrect results, problems with blind specimens).
- (f) He shall ensure the timely flow of test results and other information to employers
- (g) He shall protect the confidentiality of the drug testing information.
- (h) He shall perform all his functions in compliance with CAA regulation
- (i) The MRO shall not enter into any relationship with an employer's laboratory that creates a conflict of interest or the appearance of a conflict of interest with the MRO responsibilities to that employer.

4.2.4. Employee Interview Checklist

Appendix C introduces a guidance for employee interview checklist.

- (a) Each Operator shall have at least one MRO assigned to carry out the purposes of this Guidance. Amongst other duties, the MRO shall:
- (b) Receive all laboratory positive test results for interpretation.
- (c) Consistent with confidentiality requirements, the MRO may, upon CAA request, refer written determinations regarding all verified positive test results to the CAA, including a positive drug test result form, indicating that the positive result has been verified, together with all relevant documentation and a summary of findings.
- (d) determine alternative medical explanations for confirmed positive, adulterated, substituted, and invalid drug tests results from the laboratory.
- (e) assess shy bladder cases (when the individual is unable to give the required amount of urine). Manage split specimen, advise the employee with positive drug test about his right to do an independent testing using the split specimen.
- (f) Manage the specimen integrity (adulteration testing).
- (g) Ensuring the review of the CCF on all specimen collections for the purposes of determining whether there is a problem that may cause a test to be cancelled.
- (h) Report to and consult with the CAA Aeromedical Section when CAA assistance in resolving any program issue is needed. An employer or service agent is prohibited from limiting or attempting to limit the MRO's access to the CAA for this purpose and from retaliating in any way against an MRO for discussing drug testing issues with the CAA.
- (i) Provide feedback to employers and laboratories, regarding the collection site and performance issues where necessary.
- (j) Assess and review of the employee who admitted the use of prescribed medication at the time of the testing.
- (k) In all the cases of positive testing, refusal to test or adulterated sample, the MRO should conduct an interview with the employee for the purpose of verification of the results. During medical review of employees' test results, the MRO should not establish a doctor-patient relationship with the concerned employees.
- (l) After getting the confirmatory result of the tests and the interview, the MRO shall report to the safety representative directly using the CCF.

- (m) The MRO is not directly reporting the test result to the CAA, he should fill the CCF and return it to the company representative who will then send to the CAA the verified positive test after MRO review, this process should not take more than two (2) days.

4.3. Supervisors Note:

For the purpose of these requirements, Supervisors are considered safety representatives of the company. Each employer shall authorize supervisors from the company to take immediate action(s) to remove employees from safety-sensitive duties, and to make required decisions in the testing and evaluation processes, also receive test results and other communications for the employer, consistent with the requirements of this Guidance Manual, and they will be responsible to send the test results to the CAA (this is subject to company policy, as coordinator or the MRO may send the information to the CAA).

These Supervisors shall be competent to carry out this duty, i.e. shall have knowledge about the safety issues of the program and CAA regulation and experience in this field, to accomplish an effective means of supervision of the whole program of their company. Service agents cannot act as a company safety representative/or Supervisor.

Supervisors shall be trained to recognize and address illegal drug use by employees, procedures and requirements for drug testing, and behavioral patterns that give rise to a reasonable suspicion that an employee may be using illegal drugs. Except as modified by the CAA to suit specific program responsibilities, first-line supervisors shall:

- (a) Attend training sessions on illegal drug-use in the workplace;
- (b) Initiate a drug test based on reasonable suspicion
- (c) Initiate appropriate disciplinary action upon a finding of illegal drug use; and
- (d) In conjunction with personnel specialists, assist higher-level supervisors in evaluating employee performance and or personnel problems that may be related to illegal drug use.

4.4. Employee responsibility

- (a) No employee shall report for work under the influence of alcohol or any other psychoactive substance.
- (b) No employee shall use, possess, sell or distribute psychoactive substances on the job. Psychoactive substances include such drugs as marijuana, cocaine, amphetamines, barbiturates and heroin.
- (c) No employee shall drink alcohol during duty time, on company property, or in a company vehicle. It is a violation of CAA policy for any safety-sensitive employee to come to work within twelve (12) hours of drinking alcohol.
- (d) No employee shall use any medication that could affect the safe performance of duties unless the AME/CAA has been informed of and has approved such use.

4.5. CAA Responsibilities:

- (a) Distribution of educational materials for this purpose.
- (b) The CAA shall develop implementation procedures to enable the operators/or companies efficiently and swiftly to implement all aspects of this requirement taking into account the unique geographical, personnel, budgetary and other relevant factors of the field offices. Such procedures shall also encourage cooperation and coordination among components to conserve resources and efficiently implement this order.
- (c) Ensure that contract laboratories chosen to perform the drug screening tests are duly certified by the CAA for Workplace Drug Testing Programs and that any other contracts to

implement this requirement conform to the technical specifications of the Mandatory Guidelines.

4.6. Records of Documents

Documentation shall at least include:

- (a) Any documentation associated with a review of a positive test result, including completed copies of the model forms, should be maintained.
- (b) Copies of prescriptions.
- (c) Photocopies of prescription bottles.
- (d) Notes that a prescription was verified at a pharmacy or by the treating physician.
- (e) Any consultation with the Laboratory Director or collection personnel shall be noted.

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5. CHAPTER 5- GENERAL IMPLEMENTATION

5.1. Procedure for the implementation of this program

- (a) Once the CAA approve the company's policy and procedure for applying this requirement, it will be given a CAA registration number which will be valid for one year.
- (b) The employer responsible to meet all applicable requirements and procedures of this Guidance Manual, they are responsible for all actions of the official representatives, and service agents in carrying out the requirements of the regulations.
- (c) The employer, may use a service agent to perform the tasks needed to comply with this guidance
- (d) All agreements and arrangements, between and among employers and service agents concerning the implementation of this drug and alcohol testing requirements are deemed, to require compliance with all applicable provisions of this guidance.
- (e) The employer is responsible to ensure that the service agents who are used meet the qualifications set forth in this guidance. The guidance may require service agents to show documentation that they meet the requirements of this guidance.
- (f) The employer remains responsible for the compliance with all the applicable requirement of this guidance, even when service agent is used. Any violation of this guidance of regulations because a service agent has not provided services as CAA rules require investigation and the employer is responsible for obtaining information required by this guidance from the service agents.
- (g) An employer who receives a verified positive drug test result or a verified adulterated or substituted drug test result shall immediately remove the employee involved from performing safety-sensitive functions. This action shall be taken upon receiving the initial screening report of the verified positive test result and shall not wait to receive the confirmatory report or the result of a split specimen test.
- (h) An employer who receives an alcohol test result of 0.02%, or higher shall immediately remove the employee involved from performing safety-sensitive functions and should not wait to receive the written report of the result of the test.
- (i) As an employer, when an employee has a verified positive, adulterated, or substituted test result, or has otherwise violated a CAA drug and alcohol regulation, the employer shall not return the employee to the performance of safety-sensitive functions until receives the permission from the CAA.
- (j) The employer shall provide to service agent or the person conducting the test, the name and telephone number of the appropriate supervisor/safety representative, to contact about any problems or issues that may arise during the testing process.
- (k) Each employer should assign a person from the company or external independent one to act as an MRO, to perform a numbers of critical functions in a comprehensive drug testing program.

Note: *In case the company choose to use the function of service agent or external laboratory, this CAA may require conducting facility audit or may alternatively accept the recognition of another authority.*

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6. CHAPTER 6- NOTICE

6.1. Legal Notice

6.1.1. With respect to medical fitness, CAR FCL 1, SUBPART A 1.040 STATE

- (a) Holders of medical certificates shall not exercise the privileges of their licenses, related ratings or authorizations at any time when they are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges.
- (b) Holders of medical certificates shall not take any prescription or non-prescription medication or drug, or undergo any other treatment, unless they are completely sure that the medication, drug or treatment will not have any adverse effect on their ability to perform safely their duties. If there is any doubt, advice shall be sought from the AMs, an AeMC, or an AME. Further advice is given in CAR-FCL 3

6.1.2. Physical and Mental Requirements

The applicant shall have no established medical history or clinical diagnosis of any of the following:

- (a) mental or behavioral disorder due to use of psychoactive substances; this includes dependence syndrome induced by alcohol or other psychoactive substances;
- (b) any disturbance of consciousness without satisfactory medical explanation of cause - such as would entail a degree of functional incapacity, which is likely to interfere with the safe operation of an aircraft or with the safe performance of his/her duties.
- (c) Any effect or side-effect of any prescribed or non-prescribed therapeutic or preventative medication taken; such as would entail a degree of functional incapacity which is likely to interfere with the safe operation of an aircraft or with the safe performance of duties.

6.1.3. Drug screening is mandatory as part of medical assessment for all the classes.

An applicant for any class of Medical Assessment shall be required to be free from:

- (a) any disturbance of consciousness without satisfactory medical explanation of cause - such as would entail a degree of functional incapacity, which is likely to interfere with the safe operation of an aircraft or with the safe performance of his/her duties.
- (b) Any effect or side-effect of any prescribed or non-prescribed therapeutic or preventative medication taken; such as would entail a degree of functional incapacity which is likely to interfere with the safe operation of an aircraft or with the safe performance of duties.

Class 1 Medical Assessment (for applicants for or holders of commercial pilot licenses, airline transport pilot licenses, flight navigator and flight engineer licenses);

Class 2 Medical Assessment (for private pilot licenses and glider and free balloon pilot licenses);

Class 3 Medical Assessment (for air traffic controller licenses):

the applicant shall not have an "established medical history or clinical diagnosis of Alcoholism, drug dependence, such as might render the applicant unable to safely exercise the privileges of the license applied for or held.

6.2. General

The CAA requires that a drug screening test shall be conducted as part of the medical assessment for the initial issue of all CAA licenses and as otherwise required by the CAA.

6.2.1. Screening Test

The screening shall consist of a urine sample taken by a Sultanate of Oman Aeromedical Examiner and analyzed by a recognized laboratory for amphetamines, barbiturates, benzodiazepines, cannabis, opiates and other psychoactive substances.

6.2.2. Testing for Psychoactive Substances

A holder of a CAA license shall submit to a test to indicate the use of psychoactive substances and/or alcohol in the blood as part of a CAA authorized screening programme. That person, upon request by an authorized CAA representative, shall furnish the CAA, or authorize any clinic, hospital, doctor, or other person to release to the CAA, the results of each test taken. Refusal to submit to drug or alcohol test is grounds for immediate suspension of that person's license.

6.2.3. Test Information

Any test information obtained by the CAA above may be evaluated in determining a person's qualifications for any CAA license or possible violations of this Chapter and may be used as the basis for suspension or sanctions against that license as well as used as evidence in any legal proceeding.

6.3. General Notice

A general notice from the CAA announcing the testing program, will be provided to all employers no later than sixty (60) days prior to the implementation date of the Plan and shall explain:

- (a) The purpose of the Drugs and Alcohol Management Plan;
- (b) That the Plan will include both pre-employment and random testing;
- (c) That those who hold positions selected for random testing will also receive an individual notice, prior to the commencement of testing, indicating that their position has been designated a Testing Designated Position;
- (d) The circumstances under which testing may occur;
- (e) That opportunity will be afforded to submit medical documentation of lawful use of an otherwise illegal drug;
- (f) That the laboratory assessment is a series of tests which are highly accurate and reliable, and that, as an added safeguard, laboratory results are reviewed by the Medical Review Officer;
- (g) That positive test results verified by the Medical Review Officer (MRO) may only be disclosed to the employee, the appropriate management officials necessary to process an adverse action against the employee, or a court of law, or otherwise as requested by the CAA
- (h) That all medical and rehabilitation records in an employee assistance program will be deemed confidential "patient" records and may not be disclosed without the prior written consent of the patient, an authorizing court order, or otherwise as requested by the CAA.

6.4. Individual Notice

In addition to the information provided in the general notice, an individual notice will be distributed to all employees in testing designated positions explaining:

- (a) That the employee's position has been designated a "testing designated position;"

- (b) That the employee will have the opportunity to voluntarily admit to being a user of illegal drugs and to receive counseling or rehabilitation, "in which case disciplinary action is not required;"
- (c) That the employee's position will be subject to random testing no sooner than thirty (30) days following the notice.

6.5. Signed Acknowledgement

Each employee in a Testing Designated Position shall be asked to acknowledge in writing that the employee has received and read the notice which states that the employee's position has been designated for random drug testing, and that refusal to submit to testing will result in initiation of disciplinary action, up to and including dismissal.

If the employee refuses to sign the acknowledgement, the employee's supervisor shall note on the acknowledgement form that the employee received the notice. An employee's failure to sign the notice shall not preclude testing that employee, or otherwise affect the implementation of this order since the general sixty-day notice will previously have notified all operator/or company employees of the requirement to be drug-free.

Note: *Applicant signing the company policy is considered formal signed acknowledgement.*

6.6. Notification of Selection

Refer to Chapter 9, paragraph 9.4.4

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7. CHAPTER 7 – IDENTIFICATION OF PSYCHOACTIVE SUBSTANCE ABUSE INDIVIDUAL AND DISCIPLINARY CONSEQUENCES

7.1. Determination

An employee may be found to use illegal drugs on the basis of any appropriate evidence including, but not limited to:

- (a) Direct observation;
- (b) Evidence obtained from an arrest or criminal conviction;
- (c) A verified positive test result; or
- (d) An employee's voluntary admission

7.2. Employment Consequences of Problematic Use of Substances:

Any of the following:

- (a) Immediate termination of employment
- (b) Temporary removal pending evaluation
- (c) Disciplinary action
- (d) Conditional or restricted return to duty, this is applied when the Employee voluntarily admit the problematic use of substance and had successfully completed the rehabilitation course of therapy.

Note: *The CAA will not license any individual with a medical history or clinical diagnosis of alcoholism and/or drug dependence and is not medically qualified to hold a flight crew, cabin crew or air traffic control license. Regardless of the ultimate choice of actions, it is essential that employees identified as having engaged in problematic substance use be limited to positions not related to aviation safety until it has been determined that their continued performance will not jeopardize safety. The assessment may be as simple as an interview or as complex as a comprehensive evaluation by a medical professional and a substance abuse specialist.*

7.3. Refusal to Take Drug Test When Required

An employee who refuses to be tested when so required will be subject to the full range of disciplinary action, including dismissal. Attempts to alter or substitute the specimen provided will be deemed a refusal to take the drug test when required.

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8. CHAPTER 8- IMPLEMENTATION OF TESTING PROGRAM

8.1. Determining the Testing Designated Position

These positions are characterized by critical safety or security responsibilities as related to the mission of the CAA. The job functions associated with these positions directly and immediately relate to public health and safety, the protection of life and property, or national security. These positions are identified for random testing because they require the highest degree of trust and confidence. The CAA reserves the right to add or delete positions determined to be testing designated positions pursuant to the criteria established in the CAR FCL 1, SUBPART A.

8.1.1. Safety Sensitive Aviation Activities (SSAA) Designated for Random Testing:

- (a) Flight crewmembers
- (b) Aircraft Maintenance Engineer
- (c) Cabin crew members
- (d) Flight instruction duties
- (e) Air Traffic Controller

The categories selected may include: flight crew members (pilots, flight engineers and flight navigators); flight attendants; maintenance personnel (including repair and inspection personnel); flight instructors; dispatchers; passenger and baggage screeners; ground security coordinators; and air traffic controllers. Other categories of personnel, among them airport security and firefighters, could also be considered for inclusion.

8.1.2. List of Drugs to be tested

- (a) Cannabis (Marijuana) and its metabolites
- (b) Cocaine and its metabolites
- (c) Opiates with Morphine and metabolites.
- (d) Amphetamines
- (e) Barbiturates
- (f) Benzodiazepines
- (g) Methadone
- (h) Phencyclidine (PCP).

In addition to any Drug and alcohol testing deemed necessary by the AME on suspicion.

8.1.3. Circumstances that require testing

- (a) pre-employment (Drugs only)
- (b) random testing (Drugs and Alcohol)
- (c) reasonable suspension (Drugs and Alcohol)
- (d) post-accident (Drugs and Alcohol)
- (e) Follow up testing

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9. CHAPTER 9 – PRE-EMPLOYMENT/PRE-TRANSFER TESTING

9.1. Objectives

To maintain the high professional standards of the company/operator workforce, it is imperative that individuals who use illegal drugs be screened out during the initial employment process before they are placed on the employment rolls of the company. This procedure will have a positive effect on reducing instances of illegal drug use by employees working within the company, and will provide for a safer work environment. For these reasons, drug testing shall be required of all applicants in safety sensitive positions and or for transfer to a safety- sensitive position within the company.

9.2. Procedures

- a) During the initial medical examination, a urine test should be submitted to be tested for illegal drug use.
- b) Applicants shall be advised of the opportunity to submit medical documentation that may support a legitimate use for a specific drug and that such information will be reviewed only by the Medical Review Officer to determine whether the individual is licitly using an otherwise illegal drug.

Note: For all the applicants applying for renewal over 60 years, Alcohol screening should be part of the psychological assessment.

9.3. Consequences

The company/organization shall inform such applicant that a confirmed presence of an illegal drug in the applicant's urine precludes the company from hiring the applicant.

9.4. Random Testing

Random testing, with its attending consequences, is intended to deter employees from using drugs and to detect employees who do not refrain.

9.4.1. Employee Selection.

The selection of employees for random drug and alcohol testing can be made by a scientifically valid method such as random number table or a computer based random number generator that is matched with employees' payroll identification number or other comparable identifying numbers. It is the company's responsibility to find the best method to perform the random testing.

9.4.2. Annual Percentage Rate

For random drug and/or Alcohol testing. The CAA policy requires that the minimum annual percentage rate for random drug testing shall be 20% of covered employees and the minimum annual percentage rate for random Alcohol testing shall be 20% of covered employees. This is applied to all OPERATORS with employees in safety sensitive aviation activities (SSAA).

9.4.3. Implementing Random Testing.

In implementing the program of random testing the DAMP Coordinator Shall Ensure that the means of random selection remains confidential; and evaluate periodically whether the numbers of employees tested and the frequency with which those tests will be administered satisfy the company/operator's duty to achieve a drug-free work force, or achieve the percentage which was determined by the CAA.

9.4.4. Notification of Selection.

An individual selected for random testing, and the individual's first-line supervisor, shall be notified the same day the test is scheduled, preferably, within two (2) hours of the scheduled testing. The supervisor shall explain to the employee that the employee is under no suspicion of taking drugs and that the employee's name was selected randomly.

9.4.5. Deferral of Testing.

An employee selected for random drug and /or Alcohol testing will not obtain a deferral of testing, if he is in a leave status (annual or administrative), the employee's first-line and higher-level supervisors will defer the test, and the employee whose random test is deferred will be subject to an unannounced test within the following 60 days.

9.5. Reasonable Suspicion Testing

Reasonable suspicion testing may be based upon, among other things:

- (a) Observable phenomena, such as direct observation of drug use or possession and/or the physical symptoms of being under the influence of a drug;
- (b) A pattern of abnormal conduct or erratic behavior;
- (c) Arrest or conviction for a drug-related offense, or the identification of an employee as the focus of a criminal investigation into illegal drug possession, use, or trafficking;
- (d) Information provided either by reliable and credible sources or independently corroborated; or
- (e) Newly discovered evidence that the employee has tampered with a previous drug test.
- (f) If the AME at the time of the medical check, observed signs or medical problems which may be related/or induced by alcohol abuse (e.g. person with family history of addiction, cases of cardiac arrhythmia, insomnia, chronic headache, depression or anxiety, liver disease and cases of uncontrolled hypertension and diabetes), he should order the screening tests of alcohol abuse.

Note: Three of the most clinical laboratory tests for detecting and monitoring alcohol use are:

- GGT (gamma-glutamyl transferase)
- MCV (mean corpuscular volume)
- CDT (carbohydrate deficient transferrin)

9.6. Supervisory Training

Supervisors should be trained to address illegal drug use by employees, to recognize facts that give rise to a reasonable suspicion, and to document facts and circumstances to support a finding of reasonable suspicion. Failure to receive such training, however, shall not invalidate otherwise proper reasonable suspicion testing.

9.7. Procedures for testing

If an employee is suspected of using illegal drugs and /or under the influence of Alcohol, the appropriate supervisor will gather all information, facts, and circumstances leading to and supporting this suspicion then he is required to get a higher-level approval that is consistent with their organizational structure. When higher-level concurrence of a reasonable suspicion determination has been made, the appropriate supervisor will promptly prepare a written report detailing the circumstances which formed the basis to warrant the testing.

This report should include the appropriate dates and times of reported drug/or alcohol related incidents, reliable/credible sources of information, rationale leading to the test, and the action taken.

Note 1: *The employee may be asked to provide the urine sample under observation.*

Note 2: *the procedure of testing will follow same procedure used for random testing.*

9.8. Post-accident testing

The company is committed to providing a safe work environment. Employees involved in air craft incident or accidents or who engage in unsafe on-duty job-related activities that pose a danger to others or the overall operation of the aircraft may be subject to testing. The CAA will arrange the testing as soon as possible but not later than thirty-two (32) hours after the accident.

Note: *Alcohol level cannot be assessed accurately in case of accident, especially if the testing is delayed.*

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10. CHAPTER 10- BIOCHEMICAL TESTING PROGRAMME

10.1. Testing Methodologies

The choice of testing methodology shall also be carefully considered when instituting a testing program. In forensic testing, it is essential that a test result accurately reflect the presence or absence of a substance in the employee's body. A "false positive" occurs when the test incorrectly indicates the presence of a substance when there is none and a "false negative" when the test fails to recognize that the substance is present.

Neither outcome is desirable, but a perfect test giving only true positive and true negative test results does not exist. Given the stigma associated with any suspicion of substance abuse, the potential for false positive test results shall be minimized to the extent possible, keeping in mind that an increase in specificity is always associated with a decline in sensitivity.

10.2. Alcohol testing methodologies

Alcohol testing methodologies are classed by forensic acceptability (i.e. evidential or non-evidential) and by the biological matrix used (blood, breath, urine, or saliva).

10.2.1. Breath testing

Breath testing indirectly measures blood alcohol content by measuring the alcohol removed from the blood in the lungs and released in expired air. The devices essentially use a correlation between alveolar air alcohol and blood alcohol. The major concerns about breath testing are the lack of specificity in some devices (i.e. they are not necessarily specific for ethanol), the variation in devices, and the accuracy of the devices at low alcohol concentrations, in high-volume use, in weather extremes, and upon frequent transportation.

(a) Non-evidential testing devices

Non-evidential devices are by definition devices that are not accepted in courts as providing proof that an individual had a certain alcohol level, usually because the devices are insufficiently accurate or do not provide a permanent record of the test result. These devices are widely used in law enforcement to provide probable cause to conduct an evidential test, which could provide information on which to base a criminal or civil sanction,

Note: *None-vidential devices can be used to screen for alcohol, with only employees who screen positive required to either go to an alcohol testing site where an EDT is available or submit to a blood test.*

(b) Evidential Breath Testing

Devices shall have proper and regular calibration, maintenance and inspection checks (performed by its manufacturer or a maintenance representative certified either by the manufacturer) these checks shall take into account factors like frequency of use, environmental conditions (e.g., temperature, humidity, altitude) and type of operation (e.g., stationary or mobile). Records of the inspection, maintenance, and calibration of EBTs shall be maintained.

The EBT Device used for the purpose of this requirement shall have the following capabilities:

- i. Provides a printed triplicate result (or three consecutive identical copies of a result) of each breath test;
- ii. Assigns a unique number to each completed test, which the BAT and employee can read before each test and which is printed on each copy of the result;

- iii. Prints, on each copy of the result, the manufacturer's name for the device, its serial number, and the time of the test;
- iv. Distinguishes alcohol from acetone at the 0.02 alcohol concentration level;
- v. Tests an air blank; and
- vi. Performs an external calibration check.

10.2.2. Blood Alcohol Testing

It is considered evidential method of testing alcohol and is a well-established and very accurate method of confirmatory alcohol testing. Although alcohol can vaporize out of blood, it is less of a problem than with tiring testing, blood is collected in a vacuum tube, a preservative is added, and the tube is tightly capped.

The most accurate methods of testing blood are by gas chromatography and enzymatic oxidation. These methodologies are specific for ethanol.

- (a) Chain of custody would be required.
- (b) Any laboratory performing blood alcohol testing should also be subject to a quality control program designed to ensure that the laboratory is technically proficient and that its technicians are able to differentiate between true alcohol consumption and medical conditions affecting the tests.

Note: *If the employee for any medical condition cannot provide adequate amount of breath for the testing, the company representative may direct the technician to take a blood sample for both screening and confirmation tests.*

10.2.3. Urine alcohol testing

Urine can be tested for alcohol by immunoassay screening and gas chromatography confirmation and is considered evidential testing methodology but urine testing should not be used, however, because it has several major disadvantages.

One disadvantage is that in order to get a quantitation of current alcohol content, a double void system would have to be used; that is, the individual urinates, waits fifteen (15) minutes or so, then provides the urine specimen actually used for testing purposes.

A single void would only accurately measure whether the individual had used alcohol, but would not provide any measurement that could correlate to current alcohol concentration in the person's system.

Another disadvantage is the volatility of alcohol in urine. To produce a valid result, the urine shall completely fill the specimen container, or the alcohol will escape as a gas into the available airspace.

Further, any time the bottle is opened additional alcohol will vaporize and escape. Finally, some data indicate that urine alcohol concentration may not correlate directly to blood alcohol concentration (BAC).

10.2.4. Saliva testing

Saliva testing is relatively new evidential testing methodology and has not been widely used or studied. It would be difficult for most people to provide enough saliva to do any kind of confirmatory test, since such tests take a minimum of 5 ml.

Swab tests are inherently questionable, except in very controlled circumstances — the amount of saliva on the swab, the location from which the saliva is taken, the condition of the mouth, and

anything present in the mouth can all affect the results. Further, cold remedies and mouthwashes contain more than enough alcohol to produce positive results.

Finally, if the collector (especially a non-medical collector) shall place the swab in the donor's mouth, the test may be perceived as invasive, while the alternative of permitting the donor to do the collection raises the possibility that the process could be manipulated.

10.3. Drug testing methodologies

10.3.1. Urine

Most commonly used for drug testing.

It is a good indicator of drug use in the previous few days. Almost all drugs can be detected in urine.

10.3.2. Saliva/oral fluid

Saliva testing is relatively new and has not been widely used or studied. It would be difficult for most people to provide enough saliva to do any kind of confirmatory test, since such tests take a minimum of 5 ml. The collector (especially a non-medical collector) shall place the swab in the donor's mouth, the test may be perceived as invasive, while the alternative of permitting the donor to do the collection raises the possibility that the process could be manipulated. It does not detect all the drugs needed to be tested by the CAA regulation and does not detect chronic users. And for legal issues can't be used.

***Note:** It detects very recent use of drug and actual impairment, as it reflects the blood concentration. But most drugs disappear from saliva and blood within 12-24 hours after administration.*

10.3.3. Blood

Most commonly done for clinical diagnostic /or forensic purposes. Blood test can be done even with a severely injured, intoxicated or dead person and therefore favored for post-accident investigation. Almost all drugs can be tested in blood, although Marijuana is particularly difficult to measure. It is not good to detect chronic use of any drugs.

10.3.4. Sweat

Rarely used in aviation, can be easily contaminated.

10.3.5. Hair test

Can be used for confirmation of a positive test, post-accident, or if the test result is negative in contrast to the obvious clinical signs for addiction. it detects drug use in the last 3 months, but can't be used until a week after that specific drug use and it can be contaminated from the environment surrounding the individual.

10.4. Detection Period of Drug and its metabolites

The length of time a drug or metabolite can be found in bodily fluids is known as the detection period. Detection periods vary widely according to the inherent physical and chemical properties of the drug itself, the person's history of use, and characteristics such as age, sex, body weight, and health.

For example, the cocaine detection period is very short (12 to 48 hours) whereas marijuana has a longer detection period, depending on drug-use history. Casual marijuana use can be detected from two (2) to seven (7) days later. With chronic use detection may be possible up to two months after the last use. However, a single puff of low potency marijuana may be undetectable after twelve (12) hours.

Detection time is of intense concern to employers because it indicates how long after illicit drug use that use can be detected and therefore how confident the employer can be that employees tested negative are actually drug free at the time of testing. For employees who have used illicit drugs, knowledge of detection times can mean the difference between being detected and slipping by.

Drug using employees usually consult detections time tables to determine how long they shall abstain from use when facing a drug test with the hopes of testing negatives. This cat-and-mouse game is found most often in pre-employment testing where an applicant will clean-up for a few weeks before applying for employment.

10.4.1. Metabolite and Metabolism

After a drug is swallowed, smoked, injected, or snorted, it is distributed throughout the bloodstream and this blood repeatedly passes through the liver and other parts of the body. During this blood flow, the drug encounters numerous enzyme systems, which converts most of the drug into one or more end products called metabolites. Metabolites travel into various parts of the body, including urine, blood, and hair.

How long it takes for this to occur depends on metabolism, and the length of time the metabolites stay detectable in the system, which is called detection time.

Table 1- Drug Detection Periods in Urine

The approximate detection periods are:

Drug	Time (Days or Hours)
Amphetamine	2-7
Barbiturates – General Secobarbital	2-4 Up to three days
Benzodiazepines	up to 30 days
Cocaine (benzoylecgonine)	Up to 5 days
Marijuana (THC) - Casual use - Chronic use	2-14 days up to 30 days
Ethanol	12-24 hours
Methaqualone	2-4 days
Opiates	2-4 days
Phencyclidine - Casual use - Chronic use	2-7 days up to 30days

Drug	Time (Days or Hours)
Buprenorphine	2 - 3 days
Heroin	1-2 days
Ectasy	2-4 days
LSD	2-3 days

10.5. Analytical Procedure for Testing

10.5.1. Screening test

A screening test determines the presumptive presence or absence of substances in a person's body. Because they lack specificity or sensitivity, or only provide a qualitative (not quantitative) measure, screening tests are not sufficient for most legal purposes. Onsite screening tests using paper chromatography or simplified immunoassay methods of urinalysis provide immediate results but can have significant instances of false negative and/or false positive test results, especially if conducted by untrained personnel.

Most screening tests are conducted using an immunoassay (enzyme, or fluorescence). Each of these techniques relies on the principle that the appropriate antibodies will recognize drugs in a body fluid and on devices that "read" the responsiveness of the antibodies. All of the immunoassay technologies have been widely used and have proven to be reasonably accurate.

The biggest difficulty with the assays is a lack of specificity, allowing only a class of substances to be identified, not one particular substance. Although progress has been made in limiting the cross-reactivity of the assays, all of the available tests can produce false positive test results.

Most commonly used: immunoassay test - which is very sensitive even to very minute quantities of a drug but not very specific for it.

If the screening test is negative, nothing more is done, but if it is positive, a second confirmation test is done.

10.5.2. Confirmatory testing

Any test result indicating that an individual may have used a psychoactive substance should be confirmed by a second analysis. Although any of the methodologies used for screening can also be used for confirmation, it is best to use a second analytical procedure that provides a quantified result.

Gas chromatography (GC) is the most commonly used confirmation test. Substances can be identified by determining the times between introduction of the sample into the device and the exiting of the components (the retention times).

The current forensic testing combines CC analysis with mass spectrometry (MS). In CC/MS testing the CC device separates the sample into the relevant components. Because substances always separate into known mass spectra, the results of the test sample can be compared with the library of known spectra to identify the substance.

Confirmatory test methodologies, especially CC/MS, are virtually error-free for positive results when equipment is properly maintained and operated.

10.5.3. Cut-off level

Cut-off level refers to the concentration of a drug necessary to indicate a positive reading on the test. Each laboratory shall use the cutoff concentrations displayed in the above table for initial and confirmation drug tests.

Initial Test Levels		Confirmatory Levels	
Marijuana metabolites	50	Marijuana metabolites*	15
Cocaine metabolite	300	Cocaine metabolites**	150
Opiate metabolites	2000	Morphine	2000
Phencyclidine	25	Codeine	2000
Amphetamine	1000	Acetylmorphine	10
		Phencyclidine	25
		Amphetamine	500
		Methamphetamine	500

*Note 1: * Confirmation for Marijuana is assayed by testing for the THC (Delta -9-tetrahydrocannabinol-9-carboxylic acid) metabolite*

*Note 2: ** Confirmation for cocaine is assayed by testing for the cocaine metabolite benzoylecgonine.*

Note 3: Cutoff level should also be determined for creatinine in the urine (i.e. too low or too high), all these tests are to detect any adulterants or any dilution made to the urine specimen.

11. CHAPTER 11- DRUG TESTING PROCEDURES

11.1. General

The organization/company shall adhere to the Mandatory Guidelines for Workplace Drug Testing Programs promulgated by the CAA. The organization drug testing component shall have professionally trained collection personnel, quality assurance requirements for urinalysis procedures, and strict confidentiality requirements.

11.2. Who May Be Drug or Alcohol Tested

- (1) An approved tester (collector) may require a body sample for the purposes of a drug or alcohol test under this Subpart from a person who is performing or available to perform an applicable SSAA.
- (2) However, an approved tester shall not, for drug or alcohol testing under this Subpart, require a body sample from a passenger.

11.3. Body Samples May Only Be Taken if a Person Consents

An approved tester is not authorised to use force to take a body sample from a person.

11.4. Powers of Approved Testers

- (1) In addition to any other powers set out in this Part, an approved tester has the powers specified in paragraph (2) in respect of taking a body sample from a donor for the following purposes:
 - (a) conducting an initial drug test;
 - (b) conducting an initial alcohol test or a confirmatory alcohol test (an ***alcohol test***).
- (2) For paragraph (1), the powers are the following:
 - (a) the approved tester may require the donor to:
 - i. produce identification of the kind mentioned in paragraph (3) to the tester; and
 - ii. inform the tester of the donor's date of birth, address and telephone number;
 - (b) the tester may require from the donor's employer the donor's name, date of birth, address and telephone number if:
 - i. on being required to produce identification, the donor is unable to produce identification of a kind set out in paragraph (3) to the tester; and
 - ii. the donor's employer is a DAMP organisation or a DAMP contractor;
 - (c) the tester may require the donor to give a body sample for the drug or alcohol test;
 - (d) the tester may require the donor to stop performing, or stop being available to perform, an applicable SSAA, for the time it takes to take a body sample for testing and to conduct an initial drug test or alcohol test on the sample;

- (e) the tester may require the donor to remain in the tester's presence for the time it takes to take a body sample and conduct an initial drug test or alcohol test on the sample.

Note: An approved tester may also ask for a body sample for a confirmatory drug test — see CAR-99.170.

(3) For paragraph (2), the kinds of identification are:

- (a) identification that:
 - i. contains a photograph of the donor and sets out the donor's name, date of birth and address; and
 - ii. was issued by an Oman Government entity, Governate, or local government body; or
- (b) identification that is issued by a DAMP organisation that contains a photograph of the donor and the donor's name; or
- (c) an Aviation Security Identification Card; or
- (d) a passport.

11.5. Collection Sites and Forms used for drug testing:

- (a) The collection site shall have all necessary personnel, materials, equipment, facilities and supervision to provide for the collection, temporary storage, and shipping of urine specimens to a laboratory, and a suitable clean surface for writing.
- (b) The collection site shall include a facility for urination which may include a single toilet room, having a full-length privacy door, within which urination can occur or the second type where facility for urination may include is a multi-stall restroom.
- (c) A collection site may be in a medical facility, a dedicated collection facility, or any other location meeting the requirements.
- (d) The collection site should be secure from any water sources, and the water in the toilet bowl should be blue; also there should be no soap, disinfectants, cleaning agents, or other possible adulterants are present;
- (e) The company shall implement a policy and procedures to prevent unauthorized personnel from entering any part of the site in which urine specimens are collected or stored. Only employees being tested, collectors and other collection site workers and employer representatives/or Supervisors and CAA representatives are authorized persons for purposes of this paragraph.
- (f) The Drug Testing Custody and Control Form (CCF) shall be used to document every urine collection required by the CAA drug testing program.

11.5.1. Urine collection under direct supervision

Collection site personnel may observe the individual provide the urine specimen when such personnel have reason to believe the individual may alter or substitute the specimen to be provided. Collection site personnel may have reason to believe that a particular individual may alter or substitute the specimen to be provided when:

- (a) The individual.
 - (1) Is being tested based on reasonable suspicion testing;
 - (2) Has previously been found by the company/operator to be an illegal drug user; or

- (3) Has previously tampered with a sample; or
- (b) Facts and circumstances suggest that the individual
 - (1) Is an illegal drug user;
 - (2) Is under the influence of drugs at the time of the test; or
- (c) The specimen
 - (1) Has a temperature outside the range of 32.5-37.7 degrees C / 90.5-99.8 degrees F; or
 - (2) Shows signs of contaminants.

11.6. Urine Specimen Collection procedure

- (a) The employee shall provide positive identification such as a photo ID issued by the employer, or local government (e.g., a driver's license).
- (b) Prior to conducting any test, the employee should sign a form in which the employee shall specify any medication they may be taking which could affect the result of the test.
- (c) The employee shall go into the room used for urination, and provide a specimen of at least 45 ml, and return to the collector with the specimen as soon as he has completed the void.
- (d) Every urine specimen collected shall be assigned a unique number, only that number and not the employee's name, will be provided to the testing laboratory. The urine specimen should be split into two clean containers and each sealed. The applicant being offered his / her choice of sample for independent testing.
- (e) Once the collection is complete, the chain of custody form shall be completed before transferring the specimen to the laboratory,
- (f) Refusal by an employee to undergo a test is considered a breach of the CAA policy and will be treated as a positive result.
- (g) cases where the candidate admits the use of medicine which is incompatible with flying duties before submitting the urine test for random checks, shall be considered violation for Civil Aviation law, and the CAA should be informed.

11.7. Urine testing procedures

11.7.1. The temperature

The temperature of the specimen should be checked no later than four minutes after the employee has given you the specimen. The acceptable temperature range is 32–38 °C/90– 100 °F.

11.7.2. Validity testing

The specimen then underwent a validity testing, where it is tested for any adulterants or substances added to obscure possibly positive results.

11.7.2.1. Validity Testing Components

- (a) The creatinine concentration on each primary specimen shall be determined.
- (b) Specific gravity shall be determined if the creatinine concentration to be less than 20 mg/dL.
- (c) The pH of each primary specimen also should be determined.
- (d) Validity tests for oxidizing adulterants on each primary specimen may or may not performed

11.7.2.2. Clinical indication for oxidizing adulterants test:

- (a) Abnormal physical characteristics; (e.g., any unusual odor, excessive foaming when shaken, smell of bleach).
- (b) Reactions or responses characteristic of an adulterant obtained during initial or confirmatory drug tests (e.g., non-recovery of internal standards, unusual response); or
- (c) Possible unidentified interfering substance or adulterant.

11.7.2.3. The primary specimen is considered to be dilute when:

- (a) The creatinine concentration is greater than or equal to 2mg/dL but less than 20 mg/dL, and
- (b) The specific gravity is greater than 1.0010 but less than 1.0030 on a single aliquot.
- (c) The physical characteristics of the specimen are outside the normal expected range for human urine.

11.7.3. Urine collection under direct observation technique

If the specimen temperature is outside the acceptable range and /or the specimen did not pass the validity testing a new collection using direct observation procedures is mandatory.

In this case, both the original specimen and the specimen collected shall be processed using direct observation and send the two sets of specimens to the laboratory and the supervisor/or company representative should be informed.

If the employee refuses to provide a specimen under direct observation any specimen the employee provided previously during the collection procedure shall be discarded.

11.8. The results for each primary specimen tested shall be reported as one or more of the following:

- (a) Negative;
- (b) Negative- dilute, with numerical values for creatinine and specific gravity;
- (c) Rejected for testing, with remark(s);
- (d) Positive, with drug(s)/metabolite(s) noted;
- (e) Positive, with drug(s)/metabolite(s) noted—dilute;
- (f) Adulterated, with numerical values (when applicable), with remark(s);
- (g) Substituted, with numerical values for creatinine and specific gravity; or
- (h) Invalid result, with remark(s).

Note 1: *Laboratory results shall be reported directly, and only, to the Supervisor/safety representative.*

Note 2: *As a laboratory testing the primary specimen, it shall retain a specimen that was reported with positive, adulterated, substituted, or invalid results for a minimum of one year. If the split specimen not sent to another laboratory for testing, the split specimen shall retain for an employee's test for the same period of time that the primary specimen is retained and under the same storage conditions.*

11.9. Review of tests results

- (a) In the case of a positive screening result the safety representative shall take immediate action to remove the employee from the safety sensitive functions.
- (b) An individual notified that the result is positive may request within 72 hours testing of the split sample by a different laboratory.
- (c) for all positive test results MRO interpretation of the Drug tests is required
- (d) Once the company representative got the verified positive test result, the Drug testing form shall be submitted to the CAA (Licensing and Aeromedical section), along with copy of CCF, not more than 2 weeks from the verified positive test.

11.10. Opportunity to Justify a Positive Test Result

When a confirmed positive result has been returned by the laboratory, the Medical Review Officer (see para 12.3) shall perform the duties set forth in these Guidelines. For example, the Medical Review Officer may choose to conduct employee medical interviews, review employee medical history, or review any other, relevant biomedical factors.

The Medical Review Officer shall review all medical records made available by the tested employee when a confirmed positive test could have resulted from legally prescribed medication. Evidence to justify a positive result may include, but is not limited to:

- (a) A valid prescription; or
- (b) A verification from the individual's physician verifying a valid prescription.

If the Medical Review Officer determines there is no justification for the positive result, such result will then be considered a verified positive test result.

The Medical Review Officer shall immediately contact the Supervisor and appropriate management official upon obtaining a verified positive test result; to recommend or take administrative action

11.11. Failure to Appear for Testing

Failure to appear for testing without a deferral will be considered a refusal to participate in testing, and will subject an employee to the range of disciplinary actions, which may include dismissal.

If an individual fail to appear at the collection site at the assigned time, the collector shall contact the Drug Program Coordinator to obtain guidance on action to be taken.

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12. CHAPTER 12 - QUALITY ASSURANCE

12.1. General

The purposes for testing necessitate forensic testing as opposed to clinical testing, because it is presumed that results will be attributed to an individual, and adverse consequences may follow a test result indicating that prohibited conduct has occurred.

In the development of biochemical testing programs generally, programs meeting forensic requirements are those that have produced test results that are supportable if challenged in court or another legal forum. Forensic testing is characterized by strict procedures to ensure that the specimen tested came from:

- (a) the specified person (the “donor”);
- (b) that it was not tampered with or adulterated by the donor or any other person;
- (c) that the results are accurate; and
- (d) that all records are maintained in a secure and confidential manner.

The steps necessary to meet forensic/legal testing requirements include chain of custody, which ensures that all specimens are sealed upon receipt from the donor to prevent undetected tampering and that specimens are handled by the minimum number of persons. It is also essential that any transfer in possession, whether to another person or a laboratory or to temporary storage, be documented on a chain of custody document. This document should be a complete and accurate reflection of the history of the specimen.

Additionally, to ensure the accuracy and reliability of analytical procedures, devices used in testing shall be properly calibrated, maintained and operated. Complete records documenting the history of any analytical device shall also be kept.

Finally, it is vital that appropriate procedures be instituted by an organization with technical expertise to ensure the accuracy and reliability of any analytical devices and protocols. Laboratories that will perform workplace testing should be required to undergo certification by the Sultanate of Oman Ministry of Health, and CAA.

These are only a few of the requirements for an acceptable forensic program. Quality control and quality assurance procedures should be developed for all testing, and employers and/or regulators should monitor compliance with these procedures. CAA should consider inspecting any laboratory that might be selected to analyze employees’ specimens. Not only will this provide the CAA an opportunity to ensure that the specimens will be properly handled, it will increase employee confidence in the program.

12.2. Components of forensic testing:

12.2.1. Chain of Custody

Chain of custody is a monitoring process to prevent tampering with the sample or the results. Chain of custody begins with collection of the urine, and continues through the final reporting of test results to clients.

Sealing of sample containers, transport and control of samples, receipt of samples by the laboratory, and supervision of lab tests remain under strict discipline throughout the chain of custody.

Authorized signatures are required at each step. Laboratory results can be effectively challenged in court if there are weak links in the chain. Standards regulate the handling, analysis, and collection of samples if they are intended to be admissible in a court of law.

Transfer of urine, blood, or saliva from the subject to the container shall be witnessed. For example, if a person is taken to a physician for a blood sample, the physician becomes the first link in the chain of custody. Few physicians understand the legal chain of custody procedures.

Unless otherwise instructed, they will usually follow clinical laboratory standards, which will not stand up to challenge by a knowledgeable attorney. The person collecting the blood sample shall be able to testify regarding the collection procedure.

Likewise, the person collecting the sample shall be able to testify to the accuracy of the container label, including the subject's name and other identifying information, such as date, time of the collection, and type of collection receptacle. The chain of custody shall be maintained until the specimen reaches the laboratory and through the confirmation of initial results.

12.2.2. Custody and Control Form

The CAA mandates the use of an approved Custody and Control Form (CCF) to document the collection of a specimen at the collection site. The CCF is usually supplied by the testing lab. This form should provide 5 copies:

- (a) Copy 1- to the laboratory with specimen.
- (b) Copy 2- to the MRO within 24 hours.
- (c) Copy 3- to the DER within 24 hours.
- (d) Copy 4- to the donor after CCF is complete and bottles are packaged.
- (e) Original copy in to the CAA file.

12.3. Medical Review Officer

An essential part of the drug testing program is the final review of results. A positive laboratory test result does not automatically identify an employee of job applicant as an illegal drug user. An individual with a detailed knowledge of possible alternative medical explanations is essential to the review of results. The Medical Review Officer (MRO) fulfills this function by reviewing the results with the donor and protecting the confidential nature of the donor's medical information.

MRO Practice:

- Interpretation of forensic drug testing results within the context of a policy or regulatory framework
- To interface with donor to discuss results and facilitate appropriate requests.

12.4. Testing at certified Laboratory

12.4.1. General

- (a) Local Sultanate of Oman laboratory meeting the minimum standards of the Mandatory Guidelines for Workplace Drug Testing Programs; or,
- (b) In the case of foreign laboratories, a laboratory approved by similar guidelines / processes, can be certified for the purpose of the testing.

12.4.2. Application procedures for approval of laboratory

Expression of Intent. The Medical Director of laboratory shall apply in writing to the CAA expressing the intent to be approved as a CAA official lab for conducting alcohol and drug testing for any operator in the Oman. The application shall be made to the Director of Flight Safety Department, Public Authority for Civil Aviation, Sultanate of Oman.

First correspondence from the CAA. On receipt of the informal application, the requisite CAA list of required equipment's, along with the CAA Guidelines for alcohol and drug testing for OMAN operators, will be sent to the candidate within a period of two working weeks.

Laboratory Survey. Provided the laboratory is selected for approval, the CAA will inform the Medical Director and arrange a date and time for the laboratory survey. Once the Laboratory survey is satisfactorily completed the Medical Director will be informed and at this point would make a payment of 100 OMR for a period of two years. This whole process from the date of formal application to the final disposal might require an average of six to eight weeks' period.

Final Approval. Once finally selected, the following items shall be sent to the Medical Director of the laboratory, Letter of approval from the CAA, and the forms of reporting positive cases if the laboratory is acting as service agent Laboratory approval letter shall expire two (2) years after the date issued.

Note: *Sample of CAA forms may be Requested from the Licensing and Aeromedical Section. Unless specifically approved, the use of any locally designed forms or certificates in lieu of those listed in this order is prohibited.*

12.4.3. Office Address and Telephone number

The laboratory will be listed with each office location and telephone number. The Medical Director of laboratory is required to promptly advise, in writing, the Licensing and the Aeromedical section of the CAA of any change in office location or telephone numbers. Movement of the location of practice may lead to termination or non-renewal of approval.

12.4.4. Facility and Laboratory requirements

- (a) The facility shall be approved by the Ministry of health
- (b) Each lab should have procedure manual/ or electronic system, which includes the principles of each test, preparation of reagents, standards and controls, calibration procedures, sensitivity of the method used for testing, cutoff values, mechanism of reporting results, criteria for unacceptable specimens and results, corrective actions to be taken when the test system are outside of acceptable limits, and copies of all procedures and dates on which they are in effect should be maintained as part of the manual.
- (c) The testing procedure of each laboratory shall be capable of detecting drugs, drugs metabolites, adulterants, and substituted specimens.
- (d) Each laboratory should have the capability to perform the screening and confirmatory tests at the same laboratory site, but confirmatory test can also be seen outside the Oman to a recognized laboratory
- (e) The specimen should be treated as evidence and all aspects of the procedure shall be documented and available for possible court testimony.
- (f) Drug testing laboratory should use chain of custody procedure to maintain control and accountability of specimens from receipt through completion of testing, reporting of results, during storage, and continuing until final disposition of specimens. The date and purpose should be documented on a laboratory chain of custody form each time a specimen is handled or transferred, and every individual in the chain should be identified.

Note: the CCF should be prepared by the Laboratory for the purpose of this testing.

- (g) The availability of internationally recognized Evidential Breath analyzer is mandatory to conduct alcohol testing. It is a simple method that requires the employee to breath into a small piece of equipment which produces instant results on the amount of alcohol in breath. This breath analyzer testing equipment can be used for both screening and confirmation testing, as long as, the machines has the capability of printing each test result and air blank, and to consecutively number each test
- (h) The laboratory shall have the capability of conducting blood alcohol concentration, or urine alcohol level, these tests can be used as an extra evidential method in cases of positive breath analyzer test.

12.4.5. Duration of records keeping and Custodian records

Each laboratory should have a system of record keeping, only authorized people can have access to it, and for all the positive cases, the sample shall be kept within the laboratory for up to one year.

12.4.6. Audit of the certified laboratory

The laboratory shall permit the Aeromedical Inspector to conduct unannounced inspection to the laboratory premise or the collection site inspection during the testing. In addition, prior to the award of contract the CAA may carry inspection and evaluation of the procedural aspect of laboratory's drug testing operation.

12.5. Other procedure to assist forensic testing:

- (a) Collection of two (2) urine samples which are sealed and signed
- (b) Only essential personnel allowed in collection site and/or lab
- (c) The 'A' Sample is tested, the 'B' sample is stored
- (d) Employees are responsible for obtaining the information necessary to determine whether the use of any such medication may negatively affect their productivity or the ability to perform safely in their jobs
- (e) Accordingly, employees should discuss their job responsibilities with their personal physicians.
- (f) To avoid potential violations of this policy, employees should contact Medical Services to have their medications reviewed with regard to possible adverse impact on safe job performance.

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13. CHAPTER 13- ALCOHOL TESTING GUIDELINES

13.1. Testing sites, forms, equipment and supplies used in alcohol testing

- (a) An alcohol testing site, shall provide visual and aural privacy to the employee being tested, sufficient to prevent unauthorized persons from seeing or hearing test results. And it shall have all needed personnel, materials, equipment, and facilities to provide for the collection and analysis of breath, and a suitable clean surface for writing.
- (b) An alcohol testing site can be in a medical facility, a dedicated collection facility, or any other location meeting the requirements of this section.
- (c) Only employees being tested, trained tester, and other alcohol testing site workers, company representative/supervisor, and CAA representative are authorized to enter to testing site.
- (d) When an Evidential Breath Test screening test on an employee indicates an alcohol concentration of 0.02% or higher, this is considered a positive alcohol testing.
- (e) Only the CAA alcohol testing form is allowed to be used for this purpose without modifications
- (f) Only the evidential breath analyzers approved by the CAA should be used to conduct alcohol screening and confirmation
- (g) The EBT that is approved by the CAA shall have the following capabilities:
 - (1) Provides a printed triplicate result (or three consecutive identical copies of a result) of each breath test;
 - (2) Assigns a unique number to each completed test, which the technician and employee can read before each test and which is printed on each copy of the result.
 - (3) Prints, on each copy of the result, the manufacturer's name for the device, its serial number, and the time of the test
 - (4) Distinguishes alcohol from acetone at the 0.02 alcohol concentration level;
 - (5) Tests an air blank; and
 - (6) Performs an external calibration check.
- (h) The inspection, maintenance, and calibration of the EBT are performed by its manufacturer or a maintenance representative certified either by the manufacturer or other appropriate agency should be maintained.

13.2. Procedures for Alcohol testing

- (a) On arrival at the testing area both the tester or the technician and the individual to be tested are required to show their identification.
- (b) The tester should explain the testing procedure before commencing the test, and then signing the form. The tester instruct the employee to blow steadily and forcefully into the mouthpiece for at least six seconds or until the device indicates that an adequate amount of breath has been obtained.
- (c) Show the employee the displayed test result.
- (d) If the screening test is 0.02% or greater a confirmation test will be performed. The confirmation test may be performed on the same machine, as long as, the machine has the capability of printing each test result and air blank, and to consecutively number each test. Another evidential test may be done by using blood.

- (e) A waiting period of at least 15 minutes, starting with the completion of the screening test should be elapsed before conducting confirmation test.
- (f) the tester should instruct the employee not to eat, drink, put anything (e.g., cigarette, chewing gum) into his or her mouth, or belch;
- (g) In the presence of the employee, the tester shall conduct an air blank on the EBT which they are using before beginning the confirmation test and show the reading of 00.0 to the employee.
- (h) The employee should see the result displayed on the EBT in confirmation test.
- (i) If the alcohol confirmations test result is 0.02 % or higher, direct the employee to sign and date the alcohol testing form.
- (j) Immediately transmit the result directly to the company representative in a confidential manner.
- (k) Printout of the results, both the screening and confirmatory, shall be forwarded to the CAA along with the alcohol testing Form MED- Form 20, not more than two (2) days from the verified positive test.

13.3. Refusal to take an alcohol test

The CAA will consider all of the following conditions as a refusal to take the test:

- (a) Fail to appear for any test within a reasonable time, as determined by the employer, after being directed to do so by the employer.
- (b) Fail to remain at the testing site until the testing process is complete.
- (c) Fail to provide an adequate amount of breath for any alcohol test required by this Guidance.
- (d) Fail to sign the certification at the alcohol testing form.
- (e) Fail to cooperate with any part of the testing process.
- (f) As an employee, if you refuse to take an alcohol test, you incur the same consequences specified under CAA regulations for a violation of those regulations.

13.4. Factors which may affect the result of Breath test

13.4.1. A Factors which may affect the result of Breath test

Research suggests that you can have two different people of the same gender, size and weight, who consume the same amount of alcohol, yet their breath alcohol readings can differ by as much as 42%.

Breathalyzers assume that the subject being tested has a 2100-to-1 partition ratio in converting alcohol measured in the breath to estimates of alcohol in the blood. If the instrument estimates the BAC, then it measures weight of alcohol to volume of breath, so it will effectively measure grams of alcohol per 2100 ml of breath given. This measure is in direct proportion to the amount of grams of alcohol to every 100 ml of blood. Therefore, there is a 2100 to 1 ratio of alcohol in blood to alcohol in breath.

However, this assumed "partition ratio" varies from 1300:1 to 3100:1 or wider among individuals and within a given individual over time. Assuming a true (and legal) blood-alcohol concentration of .07%, for example, a person with a partition ratio of 1500:1 would have a breath test reading of .10%—over the legal limit.

Most individuals do in fact have a 2100-to-1 partition ratio in accordance with William Henry's Law (1803) which states that when the water solution of a volatile compound is brought into

equilibrium with air, there is a fixed ratio between the concentration of the compound in air and its concentration in water. This ratio is constant at a given temperature.

The human body is 37 degrees Celsius on average. Breath leaves the mouth at a temperature of 34 degrees Celsius. Alcohol in the body obeys Henry's Law as it is a volatile compound and diffuses in body water. To ensure that variables such as fever and hypothermia could not be pointed out to influence the results in a way that was harmful to the accused, the instrument is calibrated at a ratio of 2100:1, underestimating by 9 percent. In order for a person running a fever to significantly overestimate, he would have to have a fever that would likely see the subject be in the hospital rather than driving in the first place.

Studies suggest that about 1.8% of the population have a partition ratio below 2100. Thus, a machine using a 2100-to-1 ratio could actually under-report. As much as 14% of the population has a partition ratio above 2100, thus causing the machine to overestimate the BAC.

Further, the assumption that the test subject's partition ratio will be average—that there will be 2100 parts in the blood for every part in the breath—means that accurate analysis of a given individual's blood alcohol by measuring breath alcohol is difficult, as the ratio varies considerably.

13.4.2. On specificity

The machine fails to identify ethanol to the exclusion of all other chemical compounds. In other words, the machine can mistake other compounds for alcohol.

13.4.3. Mouth Alcohol: Alcohol in the mouth can result in a falsely high reading

Variance in how much one breathes out can also give false readings, usually low. This is due to biological variance in breath alcohol concentration as a function of the volume of air in the lungs, an example of a factor which interferes with the liquid-gas equilibrium assumed by the devices.

The presence of volatile components is another example of this; mixtures of volatile compounds can be more volatile than their components, which can create artificially high levels of ethanol (or other) vapors relative to the normal biological blood/breath alcohol equilibrium. One of the most common causes of falsely high breathalyzer readings is the existence of mouth alcohol.

In analyzing a subject's breath sample, the breathalyzer's internal computer is making the assumption that the alcohol in the breath sample came from alveolar air—that is, air exhaled from deep within the lungs.

However, alcohol may have come from the mouth, throat or stomach for a number of reasons. To help guard against mouth-alcohol contamination certified breath test operators are trained to carefully observe a test subject for at least 15-20 minutes before administering the test.

The problem with mouth alcohol being analyzed by the breathalyzer is that it was not absorbed through the stomach and intestines and passed through the blood to the lungs. In other words, the machine's computer is mistakenly applying the "partition ratio" and multiplying the result. Consequently, a very tiny amount of alcohol from the mouth, throat or stomach can have a significant impact on the breath alcohol reading.

Other than recent drinking, the most common source of mouth alcohol is from belching or burping, or in medical terms "eructation". This causes the liquids and/or gases from the stomach—including any alcohol—to rise up into the soft tissue of the esophagus and oral cavity, where it will stay until it has dissipated. Acid reflux, or gastroesophageal reflux disease, can greatly exacerbate the mouth alcohol problem. The stomach is normally separated from the throat by a valve, but when this valve becomes herniated, there is nothing to stop the liquid contents in the stomach from rising and permeating the esophagus and mouth. The contents—including any alcohol—are then later exhaled into the breathalyzer.

Mouth alcohol can also be created in other ways. Dentures, for example, will trap alcohol. Periodontal disease can also create pockets in the gums which will contain the alcohol for longer periods. And recent use of mouthwash or breath freshener—possibly to disguise the smell of alcohol when being pulled over by police—contain fairly high levels of alcohol.

13.4.4. Testing during “absorptive” state

Due to the differing alcohol concentrations in the arterial and venous systems during absorption of alcohol (this can last anywhere between 15 minutes and 2 hours, depending upon your particular circumstances) some leading experts suggest that reliable breath testing cannot occur during the absorptive state.

13.4.5. Hematocrit

Different people have a different amount of solids in their blood, such as red blood cells. Some breath analysis machines assume a hematocrit (cell volume of blood) of 47%. However, hematocrit values range from 42 to 52% in men and from 37 to 47% in women. A person with a lower hematocrit will have a falsely high BAC reading.

13.4.6. Body Temperature

It is well established that the higher a person’s body and breath temperature, the higher the breath test reading.

13.4.7. Breathing Technique

Breathing technique can affect the breath test result by up to 30%. Breathing pattern significantly affect breath test results. One study found that the BAC readings of subjects decreased 11 to 14% after running up one flight of stairs and 72–75% after doing so twice. Another study found a 15% decrease in BAC readings after vigorous exercise or hyperventilation. Hyperventilation for 20 seconds has been shown to lower the reading by approximately 32%. On the other hand, holding your breath for 30 seconds can increase the breath test result by about 28%

13.4.8. Stress

Stress can affect blood pressure and breath test readings.

13.4.9. Used Mouthpieces

Regulations require clean mouthpieces for each test. Used mouthpieces could contain residual alcohol.

13.4.10. Simulator Calibration

Improper calibration of the reference solution can result in an improper reading.

13.4.11. Ambient Air

Rooms where the testing takes place are routinely tested on a breath machine may contain the exhaled breath of those suspects who have been previously tested. The result is that the sample chamber could be purged with alcohol-polluted air.

13.4.12. Incomplete Purging

An incomplete purging cycle during the machine’s operation sequence can result in improper readings.

14. CHAPTER 14 - RECORDS AND REPORTS

14.1. Confidentiality of Test Results

The results of a drug test of a company employee may not be disclosed without the prior written consent of such employee. In order to comply with privacy and confidentiality of the employee unless the disclosure would be:

- (a) To the Medical Review Officer;
- (b) To the CAA official personal
- (c) To any supervisory or management official within the company having authority to take adverse personnel action against such employee; or
- (d) Pursuant to the order of a court

Note: For purposes of this Guidance, "management official" includes any management, government, security or personnel official whose duties necessitate review of the test results in order to process adverse personnel action against the employee. In addition, test results with all identifying information removed shall also be made available to company personnel, including the DAMP Coordinator, for data collection and other activities necessary to comply with CAA requirements.

14.2. Employee Access to Records

Any employee who is the subject of a drug test shall, upon written request, have access to any records relating to:

- (a) Such employee's drug test; and
- (b) The results of any relevant certification, review, or re vocation-of-certification proceedings.

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- (a) Notices of verified positive test results referred by the Medical Review Officer;
- (b) Written materials justifying reasonable suspicion testing or evidence that an individual may have altered or tampered with a specimen; and
- (c) Other documents the Drug Program Coordinator, Medical Review Officer, or deems necessary for efficient compliance with this requirement

14.4. Records Maintained by Government Contractors

Any contractor, servant agent, or laboratory hired to satisfy any part of this requirement shall comply with the confidentiality requirements of this requirement, and all applicable CAA rules, regulations and guidelines.

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15. CHAPTER 15 - STATISTICAL INFORMATION

Anonymous statistical data The DAMP Coordinator shall collect and compile anonymous statistical data for reporting the number of—

- (a) Random tests, reasonable suspicion tests, accident or unsafe practice tests, follow-up tests, or applicant tests administered
- (b) Verified positive test results;
- (c) Terminations or denial of employment offers resulting from refusal to submit to testing;
- (d) Terminations or denial of employment offers resulting from alteration of specimens:
 - (1) This data, along with other pertinent information, shall be compiled for inclusion in the Company's annual report to the CAA Licensing Department. This data shall also be provided to the Aeromedical section semi-annually to assist in overall program evaluation and to determine whether changes to the Mandatory Guidelines may be required.
 - (2) The CAA decision whether to change the minimum annual random drug and/or Alcohol testing rate will be based on the reported random test positive rate for the ENTIRE aviation industry.
 - (3) If the reported random drug and/or Alcohol test positive rate is less than 1%, the CAA may continue the minimum random testing at 20%.
 - (4) The new minimum annual percentage rate for random test will be applicable from 1st November of the calendar year.
 - (5) If random drug and/or alcohol testing for two consecutive calendar year indicates that the reported positive test is less than 1%, the CAA may lower this rate to 10% of all covered employees.
 - (6) If the test received for any calendar year indicates that the reported positive rate is equal to or greater than 1%, the CAA will increase the minimum annual percentage for random drug test to 50% of all covered employee.
 - (7) Annual percentage rate includes all random positive, random negative and refusal.

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APPENDIX A – SAMPLE DRUG AND ALCOHOL MANAGEMENT POLICY

1. POLICY

- 1.1 **[EMPLOYER NAME]** has a vital interest in maintaining a safe, healthy, and efficient working environment. Being under the influence of a drug or alcohol on the job poses serious safety and health risks to the user and to all those who work with the user. The use, sale, purchase, transfer, or possession of an illegal drug in the workplace, and the use, possession, or being under the influence of alcohol also poses unacceptable risks for safe, healthy, and efficient operations.
- 1.2 **[EMPLOYER]** has the right and obligation to maintain a safe, healthy, and efficient workplace for all of its employees, and to protect the organization's property, information, equipment, operations and reputation.
- 1.3 **[EMPLOYER]** recognizes its obligations to its member companies for the provision of services that are free of the influence of illegal drugs and alcohol, and will endeavor through this policy to provide drug-and alcohol-free services.
- 1.4 **[EMPLOYER]** further expresses its intent through this policy to comply with CAA rules, regulations or laws that relate to the maintenance of a workplace free from illegal drugs and alcohol

2. PURPOSE

- 2.1 This policy outlines the goals and objectives of *EMPLOYER'S+ drug and alcohol testing plan and provides guidance to supervisors and employees concerning their responsibilities for carrying out the program.

3. SCOPE

This policy applies to all employees in safety sensitive position and all job applicants for safety sensitive positions. The term employee includes contracted employees.

4. EDUCATION

- 4.1 Supervisors and other management personnel are to be trained in:
 - (a) detecting the signs and behavior of employees who may be using drugs or alcohol in violation of this policy;
 - (b) intervening in situations that may involve violations of this policy;
 - (c) recognizing the above activities as a direct job responsibility.
- 4.2 Employees are to be informed of:
 - (a) the health and safety dangers associated with drug and alcohol use;
 - (b) the provisions of this policy.

5. PROHIBITED ACTIVITIES

- 5.1 **Legal Drugs**
 - a) The undisclosed use of any legal drug by any employee while performing **[EMPLOYER]** business or while on **[EMPLOYER]** premises is prohibited. However, an employee may continue to work even though using a legal drug if **[EMPLOYER]** management has determined, after consulting with *EMPLOYER'S+ health and/or human resources officials, that such use does not pose a threat to safety and that the using employee's job performance is not significantly affected.

Otherwise, the employee may be required to take leave of absence or comply with other appropriate action as determined by [EMPLOYER] management.

- b) An employee whose medical therapy requires the use of a legal drug shall report such use to his or her supervisor prior to the performance of [EMPLOYER] business. The supervisor who is so informed will contact [EMPLOYER'S] designated human resources officials for guidance
- c) [EMPLOYER] at all times reserves the right to judge the effect that a legal drug may have on job performance and to restrict the using employee's work activity or presence at the workplace accordingly.

5.2 **Illegal Drugs and Alcohol**

The use, sale, purchase, transfer, or possession of an illegal drug or of alcohol by any employee while on [EMPLOYER] premises or while performing [EMPLOYER] business is prohibited.

6. **DISCIPLINE**

- 6.1 Any employee who possesses, distributes, sells, attempts to sell, or transfers illegal drugs on [EMPLOYER] premises or while on [EMPLOYER] business will be discharged.
- 6.2 Any employee who is found to be in possession of or under the influence of alcohol in violation of this policy will be subject to discipline up to and including discharge.
- 6.3 Any employee who is found to be in possession of contraband in violation of this policy will be subject to discipline up to and including discharge.
- 6.4 Any employee who is found through drug or alcohol testing to have in his or her body a detectable amount of an illegal drug or of alcohol will be subject to discipline up to and including discharge.

7. **DRUG AND ALCOHOL TESTING OF JOB APPLICANTS**

- 7.1 All applicants in safety sensitive positions are subject to drug and alcohol testing.
- 7.2 An applicant shall pass the drug test to be considered for employment.
- 7.3 An applicant will be notified of [EMPLOYER'S] drug and alcohol testing policy prior to being tested; will be informed in writing of his or her right to refuse to undergo such testing; and will be informed that the consequence of refusal is termination of the pre-employment process.
- 7.4 An applicant will be provided written notice of this policy, and by signature will be required to acknowledge receipt and understanding of the policy.
- 7.5 If an applicant refuses to take a drug or alcohol test, or if evidence of the use of illegal drugs or alcohol by an applicant is discovered, either through testing or other means, the pre-employment process will be terminated.

8. **DRUG AND ALCOHOL TESTING OF EMPLOYEES**

- 8.1 [EMPLOYER] will notify employees of this policy by:
 - a) Providing to each employee a copy of the policy, and obtaining a written acknowledgement from each employee that the policy has been received and read
 - b) Announcing the policy in various written communications and making presentations at employee meetings.
- 8.2 [EMPLOYER] may perform drug or alcohol testing:
 - a) of any employee who manifests "reasonable belief" behavior.

- b) on a random basis of any employee.
 - c) of any employee who is subject to drug or alcohol testing pursuant to CAA rules, regulations or laws.
- 8.3 An employee's consent to submit to drug or alcohol testing is required as a condition of employment and the employee's refusal to consent may result in disciplinary action, including discharge, for a first refusal or any subsequent refusal.
- 8.4 An employee who is tested in a "reasonable belief" situation may be suspended pending receipt of written tests results and whatever inquiries may be required.

9. CONFIDENTIALITY

All information relating to drug or alcohol testing or the identification of persons as users of drugs and alcohol will be protected by **[EMPLOYER]** as confidential unless otherwise required by law, overriding public health and safety concerns, or authorized in writing by the persons in question.

NOTE 1: Anyone who wishes to implement a substance abuse program should first obtain the advice of legal counsel.

Note 2: Not all employers will select all of the options outlined in this policy. It is important that you read every section carefully and decide whether it applies to your particular program.

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APPENDIX B – What Employees Need to Know About CAA Drug and Alcohol Testing.

(1) Who is Subject to Testing?

Anyone designated in CAA regulations as a safety-sensitive employee is subject to drug and alcohol testing. What follows is an overview of what jobs are defined as safety sensitive functions subject to testing.

Flight crews, flight attendants, flight instructors, air traffic controllers at facilities operated by the CAA or aircraft dispatchers, aircraft maintenance or preventative maintenance personnel, ground security coordinators.

(2) Why are safety sensitive aviation activity employees tested?

For the safety of the traveling public, co-workers and yourself.

(3) What information shall employers provide when they first begin performing CAA safety sensitive functions?

(4) What conduct is prohibited by the regulations?

(5) As a safety-sensitive employee

You shall not use or possess alcohol or any illicit drug while assigned to perform a safety sensitive functions or actually performing safety-sensitive functions.

(a) You shall not report for service, or remain on duty if you:

- Are under the influence or impaired by alcohol;
- Have a blood alcohol concentration 0.02 or greater;
- Have used any illicit drug.

(b) You shall not use alcohol within four hours 8 hours for flight crew members and flight attendants) of reporting for service or after receiving notice to report.

(c) You shall not report for duty or remain on duty when using any controlled substance unless used pursuant to the instructions of an authorized medical practitioner.

(d) You shall not refuse to submit to any test for alcohol or controlled substances.

(e) You shall not refuse to submit to any test by adulterating or substituting your specimen.

Keep these in mind when preparing to report to work

(6) What drugs does CAA test for?

Drug tests are conducted only using urine specimens. The urine specimens are analyzed for the following drugs/ metabolites:

- (a) Marijuana metabolites/ THC
- (b) Cocaine metabolites
- (c) Amphetamines (Including methamphetamine)
- (d) Opiates
- (e) Phencyclidine (PCP)
- (f) Amphetamines
- (g) Barbiturates
- (h) Benzodiazepines
- (i) Methadone

- (j) TRAMADOL
 - (k) Tricyclic antidepressant
- (7) **Can they use prescribed medications and over-the-counter (OTC) drugs and perform safety sensitive functions?**
- (8) **Prescription medicine and OTC drugs may be allowed. However, these shall meet the following minimum standards:**
- The medicine is prescribed to the employee by a licensed physician, such as, their personal doctor.
 - The treating/prescribing physician has made a good faith judgment that the use of the substance at the prescribed or authorized dosage level is consistent with the safe performance of the SSAA duties.
 - The substance is used at the dosage prescribed or authorized.
 - If the person is being treated by more than one physician, they shall show that at least one of the treating doctors has been informed of all prescribed and authorized medications and that doctor has determined that the use of the medications is consistent with the safe performance of your duties.
 - Taking the prescription medication and performing SSAA functions is not prohibited by CAA regulations. However, if that person is using prescription or over-the-counter medication, check first with AME, but do not forget to consult your industry specific regulations before deciding to perform safety-sensitive aviation tasks. Also be sure to refer to your company's policy regarding prescription drugs.
- (9) **When will employees be tested?**
- (10) **SSAA employees are subject to drug or alcohol testing in the following situations:**
- Pre-employment.
 - Reasonable Suspicion/ Cause
 - Random
 - Post-Accident
- (11) **Pre-Employment:**
- As a new hire, you are required to submit to a drug test. Employers may, but are not required to, conduct alcohol testing. Only after an employer receives a negative drug test result (and negative alcohol test result – if administered) may the employee begin performing safety-sensitive aviation functions. This also applies if they are a current employee transferring from a non-safety-sensitive aviation function in to a safety-sensitive aviation activity (even if it is the same employer).
- (12) **Reasonable suspicion/ Cause:**
- The employee is required to submit to any test (Whether drug, alcohol or both) that a supervisor requests based on reasonable suspicion. Reasonable suspicion means that one or more trained supervisors reasonably believes or suspects that the employee is under the influence of drugs or alcohol. They cannot require testing based on a hunch or guess alone; their suspicion shall be based on observations concerning your appearance, behavior, speech and smell that are usually associated with drug or alcohol use.
- (13) **Random:**
- The employee is subject to unannounced random drug and alcohol testing. Alcohol testing is administered just prior to, or just after performing safety-sensitive aviation functions. No

manager, supervisor, official or agent may select an employee for testing just because they want to. Under CAA regulations, employers shall use a truly random selection process. Each employee shall have an equal chance to be selected and tested.

Just prior to the testing event, the employee will be notified of their selection and provided enough time to stop performing the SSAA and report to the testing location. Failure to show for a test or interfering with the testing process can be considered a refusal.

(14) Post-Accident:

If you are involved in an event (accident, crash, etc.) a post-accident test will be required. You will then have to take a drug test and an alcohol test.

(15) How is a urine drug test administered?

The drug testing process always consists of three components:

- The Collection.
- Testing at the laboratory.
- Review by the Medical review officer assigned by the company

(16) The Collection:

During the collection process, a urine specimen collector will-

- Verify their identity using a current valid photo ID, passport, employer issued picture ID, etc.
- Create a secure collection site by:
 - (1) Restricting access to the site to only those being tested.
 - (2) Securing all water sources and placing blue dye in any standing water
 - (3) Removing or securing all cleaning products/ fluids at the collection site.
- Afford them privacy to provide a urine specimen.
Exceptions to the rule generally surround issues of attempted adulteration or substitution of a specimen or any situation where general questions of validity arise, like an unusual temperature.
- Ask them to remove any unnecessary garments and empty your pockets (you may retain your wallet).
- Instruct them to wash and dry your hands.
- Select or have them select a sealed collection kit and open it in your presence.
- Request them to provide a specimen (a minimum of 45 ml) of your urine into a collection container.
- Check the temperature and color of the urine.
- In their presence, pour the urine into two separate bottles (A or primary and B or split), seal them with tamper-evident tape, and then ask you to sign the seals after they have been placed on the bottles.
- Complete necessary documentation on the CCF to demonstrate the chain of custody (i.e. handling) of the specimen.
- Package and ship both sealed bottles and completed CCF to CAA certified testing laboratory as quickly as possible.

(17) If the person is unable to provide 45 ml of urine on the first attempt, the time will be noted, and they will be:

- Required to remain in the testing area under the supervision of the collection site personnel, their supervisor, or a representative from your company.
- Leaving the testing area without authorization may be considered a refusal to test.

- Urged to drink up to 40 oz. of fluid, distributed reasonably over a period of up to three hours,
- Asked to provide a new specimen (into a new collection container).
- If they do not provide a sufficient specimen within three (3) hours, that person shall obtain a medical evaluation within five (5) days to determine if there is an acceptable medical reason for not being able to provide a specimen. If it is determined that there is no legitimate physiological or pre-existing psychological reason for not providing a urine specimen, it will be considered a refusal to test.

(18) Testing at the Laboratory:

At the laboratory, the staff will:

- Determine if flaws exist. If it does, the specimen is rejected for testing.
- Open only the Sample A container and conduct a screening test. Specimens that screen positive will be analyzed again using a completely different testing methodology to confirm the initial result.
 - (1) If the specimen tests negative in either test, the result will be reported as a negative.
 - (2) Only if the specimen tests positive under both methods will the specimen be reported to the medical review officer as a positive test.
- Report the findings of the analysis of the Sample A container to the Medical Review Officer (MRO).
- Store the Sample A and Sample B containers for any reported positive, adulterated, or substituted result in a freezer for at least 100 days.

Note: *The Lab may conduct specimen validity tests (SVTs) to determine if the specimen was adulterated or substituted. Tests found to be adulterated or substituted are also reported to the MRO and may be considered a refusal to test.*

(19) Review by the Medical Review Officer (MRO):

Upon receipt of the test result from the laboratory, the MRO will:

- Review paperwork for accuracy.
- Report a negative result to the Designated Employer Representative (DER).
- If the result is positive, conduct an interview with the employee to determine if there is a legitimate medical reason for the result. If a legitimate medical reason is established, the MRO will report the result to the DER as negative. If not, the MRO will report the result to the DER as positive.
- If the result is an adulterated or substituted test, conduct an interview with the employee to determine if there is a legitimate medical reason for the result. If a legitimate medical reason is established, the MRO will report the result to the DER as cancelled. If not, the MRO will report the result to the DER as a refusal.
- **Report a non-negative test result to the DER if:**
 - (1) the employee refused to discuss the results with the MRO.
 - (2) the employee did not provide the MRO with acceptable medical documentation to explain the non-negative test result.
- Inform the employee that they have seventy-two (72) hours from the time of the verified result to request to have their Sample B container “split” and sent to another certified lab for analysis for the same substance or condition that was found in the Sample A “primary” container.

(20) What are Medical Review Officers (MRO)?

Under CAA regulations, MROs are licensed physicians with knowledge and clinical experience in substance abuse disorders. They shall also complete qualification training courses and fulfill obligations for continuing education courses. They serve as independent, impartial gatekeepers to the accuracy and MRO for verification before a company is informed of the result. As a safeguard to quality and accuracy, the MRO reviews each test and rules on any other legitimate medical explanation before verifying the results as positive, adulterated or substituted.

(21) How is an alcohol test administered?

The CAA performs alcohol testing in a manner to ensure the validity of the testing as well as provide confidentiality of the employee's testing information. At the start of the test, a Screening Test Technician (STT) or a Breath Alcohol Technician (BAT), using only a CAA approved device, will:

- Establish a private testing area to prevent unauthorized people from hearing or seeing the test result.
- Require the employee to sign the Alcohol Testing form (ATF).
- Perform a screening test and show the employee the test result. Screening test result is an alcohol concentration of less than 0.02, no further testing is authorized, and there is no CAA action to be taken. Technician will document the result on the ATF, in addition to providing them and their employer a copy of that result.

If the screening test result is 0.02 or greater, the employee shall be required to take a confirmation test, which can only be administered by a BAT using an evidential Breath Testing (EBT) device. The BAT will:

- Wait at least 15-minutes, but not more than 30 minutes, before conducting the confirmation test. During that time, that person is not allowed to eat, drink, smoke, belch, put anything in their mouth or leave the testing area.

Remember: Leaving the testing area without authorization may be considered refusal to test

- Perform an "air blank" (which shall read 0.00) on the EBT device to ensure that there is no residual alcohol in the EBT or in the air around it.
- Perform a confirmation test using a new mouthpiece
- Display the test result to the employee on the EBT and on the printout from the EBT.
- Document the confirmation test result on the ATF, provide the employee a copy and provide your employer a copy.
- Report any result of 0.02 or greater immediately to the employer

If after several attempts the employee is unable to provide an adequate amount of breath, the testing will be stopped. They will be instructed to take a medical evaluation to determine if there is an acceptable medical reason for not providing a sample. If it is determined that there is no legitimate physiological or psychological reason, the test will be treated as a refusal to test.

(22) Should an employee refuse a test if they believe they were unfairly selected for testing?**(23) Rule of thumb: comply then make a timely complaint.**

If the employee is instructed to submit to a CAA drug or alcohol test and they don't agree with the reason or rationale for the test, take the test anyway. Don't interfere with the testing process or refuse the test.

(24) What is considered a refusal to test?

- Failure to appear for any test after being directed to do so by employer.
- Failure to remain at the testing site until the testing processes complete.
- Failure to provide a urine or breath samples for any test required.
- Failure to permit the observation or monitoring of the employee providing a urine sample (please note tests conducted under direct observation or monitoring occur in limited situations. The majority of specimens are provided in private).
- Failure to provide sufficient urine or breathe sample when directed, and it has been determined, through a required medical evaluation, that there was not adequate medical explanation for the failure. Failure to take a second test when directed to do so.
- Failure to undergo a medical evaluation as part of “shy bladder” or “shy lung” procedures.
- Failure to sign the testing form

(25) What happens if an employee tests positive, refuses a test, or violate CAA drug and alcohol rule?

A supervisor or company official will immediately remove the employee from CAA regulated safety-sensitive aviation functions.

The employee will not be permitted to return to performing CAA regulated safety sensitive aviation duties until they demonstrate the reason acceptable to CAA.

(26) Will an employee lose their job if they violate drug and alcohol regulations?

While the employee may not lose their job, they may lose their certification or license to perform that job.

(27) Will the employees results be confidential?

The test results are confidential. An employer or service agent (testing laboratory, MRO) is not permitted to disclose test results to outside parties without that persons written consent. But, the test information may be released (without consent) in certain situations, such as: legal proceedings, grievances, or administrative proceedings brought by the employee or on the employees' behalf, which resulted from a positive or refusal.

(28) Will the results follow onto different employers?

Yes, all drug and alcohol testing history will follow an employee to any new employer, if that employer is regulated by the CAA.

(29) What should an employee do if they have a drug or alcohol abuse problem?

Seek help. Jobs performed by safety-sensitive aviation employees keep people and economy moving. Their work is a vital part of everyday life.

Yet, by abusing drugs or alcohol, one may risk their own life, the lives of co-workers and the lives of the public.

(30) Employee Assistance Programs (EAPs):

Whilst not required by CAA regulations, EAPs may be available to employees as a matter of company policy. EAPs are generally provided by employers or unions.

(31) Education and Training Programs (required by all Agencies):

Topics may include the effects of drugs and alcohol use, company testing policies, CAA testing regulations and the consequences of a positive test. Materials may also contain information on how employees can get in touch with their Employee Assistance Programs and community service hot lines.

INTENTIONALLY LEFT BLANK

APPENDIX C – MRO EMPLOYEE INTERVIEW CHECKLIST

- (1) Identify yourself as a physician serving as the Medical Review Officer (MRO) for (Employer), with the duty of receiving and reviewing drug test results. Clearly state that you have been designated the MRO for (Employer's) drug testing program.
- (2) Establish identity of the employee (i.e. full name, employee identification number/License, date of birth).
- (3) Inform employee that medical information discussed during the interview is confidential, and may only be disclosed under very special circumstances. Identify those circumstances.
- (4) If the employee holds a CAA medical certificate, advise the employee that information regarding drug test results and information supplied by the employee will be provided to the CAA as required by appropriate regulation.
- (5) Tell the employee you are calling about the specific drug test he/she underwent on the specific date and at the specific location. Inform the employee for what drug(s) the specimen tested is positive.
- (6) Briefly explain the testing process, discussing screening and confirmation testing, and laboratory reporting.
- (7) If the employee requests the quantitative levels of the confirmed results, provide them if available. If the quantitative levels are not available, the MRO should request them; however, the MRO should not delay the verification decision pending receipt of the quantitative data.
- (8) Ask for recent medical history, when appropriate:
 - Prescription drugs
 - Over-the-counter drugs
 - Medical or dental procedures
 - Food ingestion
- (9) Request the employee to provide medical records or documentation of prescription for controlled substance when appropriate. Set a specific deadline for receipt of the medical records.
- (10) Request the employee to undergo a medical examination or evaluation, when appropriate. Arrange for medical evaluation.
- (11) Notify the employee that he or she may request a split specimen test, and explain this process. Provide information about payment for this test in accordance with employer's policy, if appropriate. Tell the employee that a split specimen test will not delay verification of the initial test result.
- (12) If the verification process is complete, inform the employee that the appropriate employer official will be notified.
- (13) Offer to answer any further questions.
- (14) Give your name and telephone number in case the employee has any further questions.

EMPLOYEE INTERVIEW CHECKLIST	
Employee Name: (Last) (First) (Middle initial)	
Employee License No.:	Date of Birth:
Date of collection:	Specimen ID No.:
Date positive result received:	Time:
Date of initial contact with employee:	
Initial contact made by: <input type="checkbox"/> Employee refused to discuss test result, declined interview with MRO. <input type="checkbox"/> Medical records are forthcoming. Date expected:	
Date MRO interview conducted:	
Date medical examination conducted (if applicable): Time: Examining physician's name: Address: Telephone:	
Date test of split specimen ordered (if applicable):	
Result and date received:	
Comments/attempts to contact employee/interview details:	
Date employee notified of verified result:	Time:
Date employer notified of verified result:	Time:
Employer contact: Address: Telephone:	
Date CAA notified of verified result (if applicable):	Time:
General comments:	
Verification decision:	
Positive Drug (specify):	
Negative Test cancelled:	

EMPLOYEE INTERVIEW CHECKLIST
Reason for test cancellation:
MRO Signature:
MRO Name:
Date: