



Human Performance Management **Fitness for Duty, Volume II: Managing Alcohol and Drug Use, version 2**

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Human Performance Management: Fitness for Duty, Volume II: Managing Alcohol and Drug Use, version 2

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Preface

This regulatory document is part of the CNSC's human performance management series of regulatory documents, which also covers human factors, personnel training and personnel certification. The full list of regulatory document series is included at the end of this document and can also be found on the [CNSC's website](#).

Regulatory document REGDOC-2.2.4, *Fitness for Duty, Volume II: Managing Alcohol and Drug Use, version 2*, sets out requirements and guidance for managing fitness for duty of workers in relation to alcohol and drug use and abuse at all high-security sites, as defined in the *Nuclear Security Regulations*.

REGDOC-2.2.4, *Fitness for Duty, Volume II, version 2* is intended to form part of the licensing basis for a regulated facility or activity within the scope of the document. It is intended for inclusion in licences as either part of the conditions and safety and control measures in a licence, or as part of the safety and control measures to be described in a licence application and the documents needed to support that application.

The CNSC's regulatory framework includes CNSC regulatory documents as well as national and international standards. Specifically, the Canadian Standards Association (CSA Group) N-series standards provide an interlinked set of regulatory requirements for the management of nuclear facilities and activities. The CSA N286 standard provides an overall management framework and direction to develop and implement sound management practices and controls for the licensing basis. This regulatory document does not duplicate the generic requirements of CSA N286. However, it provides more specific direction for those requirements.

For proposed new regulated facilities and activities, this document will be used to assess licence applications.

Guidance contained in this document exists to inform the applicant, to elaborate further on requirements or to provide direction to licensees and applicants on how to meet requirements. It also provides more information about how CNSC staff evaluate specific problems or data during their review of licence applications. Licensees are expected to review and consider guidance; should they choose not to follow it, they should explain how their chosen alternate approach meets regulatory requirements.

For existing facilities: The requirements contained in this document do not apply unless they have been included, in whole or in part, in the licence or licensing basis.

A graded approach, commensurate with risk, may be defined and used when applying the requirements and guidance contained in this regulatory document. The use of a graded approach is not a relaxation of requirements. With a graded approach, the application of requirements is commensurate with the risks and particular characteristics of the facility or activity.

Important note: Where referenced in a licence either directly or indirectly (such as through licensee-referenced documents), this document is part of the licensing basis for a regulated facility or activity.

The licensing basis sets the boundary conditions for acceptable performance at a regulated facility or activity, and establishes the basis for the CNSC's compliance program for that regulated facility or activity.

Where this document is part of the licensing basis, the word "shall" is used to express a requirement to be satisfied by the licensee or licence applicant. "Should" is used to express guidance or that which is advised. "May" is used to express an option or that which is advised or permissible within the limits of this regulatory document. "Can" is used to express possibility or capability.

Nothing contained in this document is to be construed as relieving any licensee from any other pertinent requirements. It is the licensee's responsibility to identify and comply with all applicable regulations and licence conditions.

Table of Contents

1.	Introduction.....	1
1.1	Purpose.....	1
1.2	Scope.....	1
1.3	Relevant legislation.....	1
1.4	Relevant international standards and guidelines.....	2
2.	Background	2
3.	Managing Alcohol and Drug Use.....	3
3.1	Policy statements	3
3.2	Fitness-for-duty program	3
3.3	Authorities, accountabilities and responsibilities.....	3
3.4	General fitness-for-duty process	4
3.5	Access to assistance	5
3.6	Behavioural observation	5
3.6.1	Peer observation and reporting	5
3.6.2	Supervisory awareness program	5
3.7	Assessment and continual improvement.....	6
3.8	Training, education, and awareness	6
4.	Positions Subject to Alcohol and Drug Testing.....	7
4.1	Safety-critical and safety-sensitive positions.....	7
5.	Alcohol and Drug-Testing Requirements by Circumstance and Workgroup	7
5.1	Pre-placement alcohol and drug testing	7
5.2	Reasonable grounds alcohol and drug testing.....	7
5.3	Post-incident alcohol and drug testing.....	8
5.4	Follow-up and return-to-duty alcohol and drug testing	8
5.5	Random alcohol and drug testing	9
6.	Alcohol- and Drug-Testing Processes.....	9
6.1	Breath alcohol-testing process	9
6.2	Urine drug-testing process	10
6.3	Process for positive alcohol and drug tests	12
6.4	Substance abuse evaluation process.....	12

6.5 Investigative and alcohol and drug screening tools 13

6.6 Records 13

Appendix A: Alcohol and Drug Tests by Workgroup and Circumstance.....14

Appendix B: Alcohol- and Drug-Testing Thresholds15

 B1. Blood alcohol concentration ranges and associated actions 15

 B2. Immunoassay screening 15

 B3. GC-MS and LC-MS/MS confirmation..... 16

 B4. Recommended dilution protocol cut-off concentrations 16

Abbreviations17

Glossary18

References22

Additional Information23

Fitness for Duty, Volume II: Managing Alcohol and Drug Use, version 2

1. Introduction

1.1 Purpose

This regulatory document establishes requirements and guidance for managing worker fitness for duty with respect to alcohol and drug use.

1.2 Scope

This regulatory document is intended for high-security sites as defined in the [Nuclear Security Regulations](#). The requirements and guidance in this document apply to workers holding safety-critical or safety-sensitive positions as described in section 4.1.

1.3 Relevant legislation

The following provisions of the [Nuclear Safety and Control Act](#) (NSCA) and regulations made under the Act are relevant to this regulatory document:

- Subparagraph 9(a)(i) of the NSCA states that one of the objects of the Commission is “to regulate the development, production and use of nuclear energy and the production, possession and use of nuclear substances, prescribed equipment and prescribed information in order to prevent unreasonable risk, to the environment and to the health and safety of persons, associated with that development, production, possession or use”.
- Paragraph 12(1)(a) of the [General Nuclear Safety and Control Regulations](#) requires that every licensee shall “ensure the presence of a sufficient number of qualified workers to carry on the licensed activity safely and in accordance with the Act, the regulations made under the Act and the licence”.
- Paragraph 12(1)(b) of the *General Nuclear Safety and Control Regulations* requires that every licensee shall “train the workers to carry on the licensed activity in accordance with the Act, the regulations made under the Act and the licence”.
- Paragraph 17(b) of the *General Nuclear Safety and Control Regulations* requires that every worker shall “comply with the measures established by the licensee to protect the environment and the health and safety of persons, maintain security, control the levels and doses of radiation, and control releases of radioactive nuclear substances and hazardous substances into the environment”.
- Subparagraph 17(c)(i) of the *General Nuclear Safety and Control Regulations* requires that every worker shall “promptly inform the licensee or the worker’s supervisor of any situation in which the worker believes there may be a significant increase in the risk to the environment or the health and safety of persons”.
- Paragraph 17(e) of the *General Nuclear Safety and Control Regulations* requires that every worker shall “take all reasonable precautions to ensure the worker’s own safety, the safety of the other persons at the site of the licensed activity, the protection of the environment, the protection of the public and the maintenance of the security of nuclear facilities and of nuclear substances”.
- Paragraph 6(d) of the [Class I Nuclear Facilities Regulations](#) stipulates that an application for a licence to operate a Class I nuclear facility shall contain “the proposed measures, policies, methods and procedures for operating and maintaining the nuclear facility”.

- Section 18.4 of the *Nuclear Security Regulations* states that “an authorization referred to in section 18 may be issued for any term not exceeding five years and shall be subject to any terms and conditions necessary to minimize the risk to the security of the facility.”
- Section 38 of the *Nuclear Security Regulations* requires that “every licensee shall develop a supervisory awareness program and implement it on an ongoing basis to ensure that its supervisors are trained to recognize behavioural changes in all personnel, including contractors, that could pose a risk to security at a facility at which it carries on licensed activities.”

1.4 Relevant international standards and guidelines

The International Atomic Energy Agency (IAEA) has identified the need for nuclear facilities to address fitness for duty. The IAEA’s framework that supports fitness for duty is embedded in two safety requirement documents [1, 2] and in numerous safety guides [3–6].

For all nuclear facilities, the IAEA recommends that regulators inspect licensees’ fitness-for-duty programs and evaluate their effectiveness [3]. Regulators are also to ensure nuclear facility operators have “guidelines on fitness for duty in relation to hours of work, health, and substance abuse” [4].

With respect to drugs and alcohol, the IAEA recommends that all nuclear facilities have guidelines on fitness for duty related to substance use [5]. The IAEA further recommends that licensees have methods for identifying those with a tendency toward alcohol or drug abuse, and that administrative controls be established to allow the fitness for duty of shift personnel to be observed, verified and controlled. As well, the IAEA also advises that “personnel prone to drug or alcohol abuse should not be employed for safety related tasks” [6].

2. Background

Human performance is a key contributor to the safety and security of nuclear facilities. One factor that affects human performance is fitness for duty. The adoption of measures that monitor alcohol and drug use or abuse is a key component of ensuring worker fitness for duty. For the purposes of this document, fitness for duty is defined as:

A condition in which workers are physically, physiologically, and psychologically capable of competently and safely performing their tasks.

The implementation of an effective fitness-for-duty program relating to alcohol and drug use and abuse provides reasonable assurance that workers have the capacity, and are free of impairment that could hinder their ability, to competently and safely perform the duties of their position, and as such do not pose a safety or security risk.

The fitness-for-duty requirements herein in relation to alcohol and drug use and abuse represent reasonable occupational and operational requirements for the applicable worker population. An employer is responsible for assessing the extent, where considered necessary, of the duty to accommodate. In fulfilling the duty to accommodate, an employer is required to accommodate a worker whose need(s) are based on any of the grounds of discrimination in the *Canadian Human Rights Act* – for example, someone identified with a disability – to the point where accommodation would cause undue hardship for the employer [7]. The licensee is also responsible for ensuring that any duties assigned to a worker do not pose a risk to his or her

health or safety, the health or safety of others, the safety of the facility and the environment, and do not impact the effectiveness of the licensee's operation.

3. Managing Alcohol and Drug Use

With respect to alcohol and drug use and abuse, licensees shall manage the fitness for duty of applicable workers (see section 4.1) who could pose a risk to nuclear safety or security in accordance with their management system as defined in the licensee's licensing basis. The following subsections specify how the management system's generic requirements apply to managing fitness for duty in relation to alcohol and drug use and abuse.

3.1 Policy statements

Licensees shall establish, implement and maintain clear fitness-for-duty policy statements regarding alcohol and drug use and abuse. The policy statements shall provide workers with information on what is expected of them and the consequences that may result from policy violations.

Guidance

Licensees' alcohol- and drug-related policy statements should:

1. prohibit reporting to work or remaining at work under the influence of alcohol or illicit drugs
2. prohibit bringing, keeping or consuming alcohol, illicit drugs, drug paraphernalia or prescribed medications without a legal prescription on the grounds of the high-security site
3. reinforce the responsible use of prescription or over-the-counter medications, or mood-altering substances, and the process to follow if a worker uses medication that impairs or has the potential to impair his or her ability to competently and safely perform his or her duties
4. describe the responsibilities of workers, supervisors, oversight personnel and escorts to report fitness-for-duty concerns in relation to alcohol and drug use and abuse

3.2 Fitness-for-duty program

With respect to alcohol and drug use and abuse, a licensee shall implement a documented fitness-for-duty program that includes a set of coordinated measures designed to provide reasonable assurance that applicable workers (see section 4.1) are capable of performing their tasks and as such do not pose a risk to their safety, the safety of others, or the safety or security of the facility. Note: In implementing the fitness-for-duty program, licensees are required to consider all relevant privacy-related legislation.

3.3 Authorities, accountabilities and responsibilities

With respect to alcohol and drug use and abuse, licensees shall define and document the authorities, accountabilities, and responsibilities for those involved with managing worker fitness for duty including the interfaces with external organizations.

Guidance

With respect to alcohol and drug use and abuse, licensees should define and document the authorities, accountabilities, and responsibilities of the following, if applicable:

- senior management
- supervisors, oversight personnel and escorts
- workers
- security personnel
- human resources
- fitness-for-duty program administrators
- duly qualified health professionals
- duly qualified forensic toxicologists
- duly qualified pharmacists
- breath alcohol technicians
- urine collectors
- medical review officers (MROs)
- accredited laboratories
- third-party providers
- employee assistance program (EAP) providers
- substance abuse evaluation providers

3.4 General fitness-for-duty process

Licensees shall establish, implement and maintain a process to identify and manage applicable workers who have temporary or ongoing limitations that may make them incapable of performing their assigned duties competently and safely due to alcohol or drug use or abuse. This process shall include actions for a supervisor to take if he or she believes – through self-reporting, peer reporting, observed behaviour, physical condition, a fitness-for-duty screening or assessment, a health professional’s report or after receiving credible information – that a worker may be unable to competently and safely perform his or her assigned duties because of alcohol or drug use or abuse.

Licensees shall establish, implement and maintain a referral process to guide workers to seek assistance from the appropriate resources.

Guidance

The fitness-for-duty process may include both self-referrals and directed referrals to appropriate fitness-for-duty resources, such as health professionals, employee assistance program provider or testing program through the fitness-for duty administrator. Processes should identify the conditions that warrant for-cause assessments.

Prior to a mandatory referral based on observed behaviour, a fitness-for-duty screening should be conducted. The screening should be based on face-to-face interaction between the worker, a supervisor and at least one other person. A screening checklist should be used.

3.5 Access to assistance

Licensees shall ensure that applicable workers have access to an EAP. EAPs shall be designed to achieve early intervention and provide confidential assistance.

Guidance

The EAP should offer confidential assessment, short-term counselling, referral services and treatment monitoring to workers who have problems, including alcohol or drug use or abuse, that could adversely affect their ability to competently and safely perform their duties.

3.6 Behavioural observation

Licensees shall ensure that applicable workers are subject to behavioural observation, specifically related to alcohol or drug use or abuse.

3.6.1 Peer observation and reporting

Licensees shall ensure that expectations regarding peer observation and reporting are included in their fitness-for-duty processes and aligned with their respective policy statements on peer observation for potential alcohol or drug use or abuse issues.

3.6.2 Supervisory awareness program

As indicated in section 1.3 of this document, section 38 of the *Nuclear Security Regulations* requires licensees to develop a supervisory awareness program. This is to ensure that supervisors are trained to recognize behavioural changes in all personnel, including contractors, that could pose a risk to security at a facility.

Supervisory awareness training shall be delivered to supervisors and other designated personnel identified by the licensee.

Guidance

Observations related to a worker's fitness for duty related to alcohol or drug use or abuse should be made in a variety of situations, such as during task assignments, observation and coaching sessions, field inspections, pre-job briefings, performance reviews, one-on-one sessions, shift turnovers and incident investigations.

Aberrant behaviour and incidents related to alcohol and drug use and abuse should be documented and trended to facilitate appropriate intervention strategies based on risk.

Supervisory awareness training may include the following aspects:

- knowledge of the authorities, accountabilities, and responsibilities of supervisors and other designated personnel with respect to behavioural observation
- knowledge of the interfaces between related fitness-for-duty policies, procedures, and supporting programs
- the ability to recognize behaviours that may indicate the possible use, sale, or possession of illegal drugs; use or possession of alcohol or impairment from prescription and over-the-counter medication onsite or while on duty

Further information on observed behaviours can be found in section 5.2, “Reasonable grounds alcohol and drug testing”.

3.7 Assessment and continual improvement

An assessment of the fitness-for-duty program related to alcohol and drug use and abuse and the supervisory awareness program shall be performed periodically to identify opportunities for continual improvement and to confirm the program’s effectiveness.

Licensees shall carry out trend analyses of problems and causes related to the use and abuse of alcohol and drugs.

3.8 Training, education, and awareness

Licensees shall ensure that those with authorities, accountabilities, and responsibilities for monitoring alcohol and drug use and abuse, including workers, receive initial and continuing training commensurate with their authorities, accountabilities and responsibilities.

Guidance

With respect to alcohol and drug use and abuse, licensees’ training, education and awareness for workers who are subject to the fitness-for-duty program should include the following aspects:

- knowledge of the fitness-for-duty policy statements and procedures that apply to the worker, the methods that will be used to implement them, and the consequences of violating the policy and procedures
- knowledge of the individual’s authorities, accountabilities, and responsibilities under the fitness-for-duty program
- knowledge of the EAP and other support or assessment services available to the worker
- knowledge of the health and safety hazards associated with abuse of illegal and legal drugs and alcohol
- knowledge of the potential adverse effects of alcohol, and prescription and over-the-counter drugs on job performance
- the ability to recognize behaviours in peers that may indicate the possible use, sale or possession of illegal drugs; use or possession of alcohol or impairment from prescription and over-the-counter medication on site or while on duty
- knowledge of the individual’s responsibility to report a fitness-for-duty concern and the ability to initiate appropriate actions related to self- and peer-reporting

Additional requirements and guidance related to training can be found in the following sections: section 3.6.2, Supervisory awareness program; section 6.1, Breath alcohol-testing process; section 6.2, Urine drug-testing process; and section 6.5, Investigative and alcohol and drug screening tools.

Requirements and guidance for training systems are found in REGDOC-2.2.2, *Personnel Training*.

4. Positions Subject to Alcohol and Drug Testing

4.1 Safety-critical and safety-sensitive positions

Safety-critical positions shall include:

1. workers certified under [Class I Nuclear Facilities Regulations](#) subsection 9 (2), excluding certified health physicists
2. onsite nuclear response force (NRF) members

For the purposes of alcohol and drug testing, safety-sensitive positions shall include:

3. certified health physicists
4. the following security personnel: nuclear security officers (NSOs), and designated non-NRF personnel
5. emergency response teams (ERTs) / fire brigade

Guidance

Additional information regarding certified workers and ERTs may be found in RD-204, *Certification of Persons Working at Nuclear Power Plants* [8], CSA N293, *Fire protection for nuclear power plants* [9], and CSA N393, *Fire protection for facilities that process, handle, or store nuclear substances* [10].

5. Alcohol and Drug-Testing Requirements by Circumstance and Workgroup

Alcohol and drug testing of workers holding safety-critical or safety-sensitive positions shall be conducted in accordance with the breath alcohol-testing and urine drug-testing processes described in sections 6.1 to 6.6.

5.1 Pre-placement alcohol and drug testing

Licensees shall require all candidates who succeed in progressing through all the previous stages of a job competition to a safety-critical position (see section 4.1, bullets 1 and 2) to submit to alcohol and drug testing as a condition of placement. Incumbent workers transferring into a safety-critical position (see section 4.1, bullets 1 and 2) shall also be required to submit to a pre-placement alcohol and drug test.

Guidance

As job applicants are not workers, a substance test should not be used as a screening tool and should only be administered once a candidate has met all other qualifications necessary.

5.2 Reasonable grounds alcohol and drug testing

Licensees shall require all workers in safety-critical or safety-sensitive positions (see section 4.1, bullets 1–5) to submit to for-cause testing under the reasonable grounds testing circumstance. Licensees shall define within their fitness-for-duty governance documents when workers in safety-critical or safety-sensitive positions will be required to submit to for-cause reasonable grounds testing.

Under for-cause reasonable grounds testing, workers in safety-critical or safety-sensitive positions (see section 4.1, bullets 1–5) shall be required to submit to for-cause reasonable grounds testing when there is reasonable cause to believe, through observed behaviour, physical condition or after receiving credible information, that the individual is unfit to perform his or her duties, due to the adverse effects of alcohol or drug use. The grounds for for-cause reasonable grounds testing shall be independently verified by at least two people (one of whom is a supervisor).

Guidance

Observed behaviours and physical conditions that may establish for-cause reasonable grounds testing include:

- breath odour
- observed use or possession of alcohol, illicit drugs, or drug paraphernalia
- speech patterns
- physical appearance and behaviour
- an episode or events that suggest irrational or reckless behaviour

Further information on supervisory awareness is found in section 3.6.2, Supervisory awareness program.

5.3 Post-incident alcohol and drug testing

Licensees shall require all workers in safety-critical or safety-sensitive positions (see section 4.1 bullets 1–5) to submit to for-cause testing under the post-incident testing circumstance.

Under post-incident testing, workers in safety-critical or safety-sensitive positions (section 4.1 bullets 1–5) shall be required to submit to for-cause testing as soon as practicable after a significant incident where a human act or omission by the worker may have caused or contributed to the event.

Guidance

In deciding whether or not to conduct post-incident testing, it is not necessary to determine if alcohol or drugs were contributing factors to the significant incident.

Significant incidents refer to a subset of incidents that have safety significance (see Glossary for definitions of “incident” and “safety significance”).

5.4 Follow-up and return-to-duty alcohol and drug testing

Licensees shall require all workers in safety critical or safety-sensitive positions (see section 4.1, bullets 1–5) to submit to follow-up testing after confirmation of a substance abuse or dependency issue by a health professional, and return-to-duty testing as part of the reinstatement process.

Workers shall be subject to follow-up alcohol and drug testing in an unannounced and random fashion at a minimum of every 3 months for a minimum period of 2 years. At the discretion of the health care professional, additional testing beyond these minimum requirements may be conducted to ensure abstinence.

Licensees shall, as part of the reinstatement process to a safety-critical or safety-sensitive position, require workers identified with a substance abuse or dependency issue to be tested prior to returning to and assuming safety-sensitive duties. The worker must have a negative drug test result and/or an alcohol test with an alcohol concentration below 20 mg/100mL before resuming performance of safety-sensitive duties.

5.5 Random alcohol and drug testing

Licensees shall require all workers holding safety-critical positions (see section 4.1, bullets 1 and 2) to submit to random alcohol and drug testing. Licensees' sampling process used to select these workers for random testing shall ensure that the number of random tests performed at least every 12 months is equal to at least 25 percent of the applicable worker population.

Licensees shall develop procedures and practices to ensure that random testing is administered in a manner that provides reasonable assurance that individuals are unable to predict when specimens will be collected.

The following shall be addressed for the implementation and conduct of random testing:

1. ensure that all individuals in the population subject to testing have an equal probability of being selected and tested.
2. require that individuals who are offsite when selected for testing, or who are onsite and are not reasonably available for testing when selected, be tested at the earliest reasonable opportunity when both the donor and collectors are available to collect specimens for testing and without prior notification to the individual that he or she has been selected for testing.
3. provide that an individual completing a test is immediately eligible for another unannounced test.

Guidance

The following should be considered for the implementation and conduct of random testing:

- collect specimens on an unpredictable schedule, including weekends, night shifts and holidays, and at various times during a shift.
- have testing administered by the fitness-for-duty program on a nominal weekly frequency.
- require individuals who are selected for random testing to report to the collection site as soon as reasonably practicable after notification, within the time period specified in the fitness-for-duty program policy.
- Alcohol- and drug-testing processes.

6. Alcohol- and Drug-Testing Processes

6.1 Breath alcohol-testing process

Licensees shall establish, implement and maintain a process to test workers holding safety-critical and safety-sensitive positions for the presence of alcohol.

Licensees shall retain or maintain competency in the administration, collection, and analysis of evidential breath alcohol testing. The qualified technicians conducting the breath alcohol testing shall be independent from workgroups subject to testing. For licensee-maintained processes, licensees shall establish, implement, and maintain procedures for the administration of evidential

breath alcohol testing. For retained services, licensees shall ensure service providers maintain procedures for the administration of evidential breath alcohol testing.

Licensees shall ensure that an evidential breath testing instrument is used that has been evaluated, tested and recommended by the Alcohol Test Committee (a committee under the auspices of Canada's Department of Justice) as an approved instrument published in the *Approved Breath Analysis Instruments Order* (SI/85-201) [11].

Licensees shall ensure that the following blood alcohol concentrations (BACs) are used for the determination of positive breath alcohol test results:

1. A BAC below 20 mg/100mL shall be considered a negative test, and no further action is required.
2. A BAC from 20 to 39 mg/100mL shall be considered an action level. The licensees shall prohibit the worker from performing safety-sensitive duties until a determination of fitness indicates that the worker is fit to competently and safely perform his or her duties.
3. A BAC of 40 mg/100mL or greater shall be considered a positive test and a fitness-for-duty policy violation (see section 6.3, Process for positive alcohol and drug tests).

Table B1 in appendix B provides a summary of BAC ranges and associated actions [12].

Guidance

Licensees should refer to the Alcohol Test Committee when establishing procedures for the administration of evidential breath alcohol testing, including:

- the initial and continuing training and qualification of breath alcohol technicians for the operation of approved instruments, including conversion training
- the initial and continuing training and qualification of designated service personnel for the preventative and corrective maintenance of approved instruments
- the development and implementation of protocol(s) for:
 - maintaining approved instruments authorized for use at the nuclear site
 - the preparation required prior to conducting alcohol testing
 - handling and processing workers that will be tested, including escort procedures
 - conducting an initial alcohol test using a breath specimen
 - conducting a confirmatory test for alcohol (when the initial test is 20 mg/100mL or greater)
 - determining a confirmed positive breath alcohol test result
 - shy lung
 - documenting and reporting requirements of breath alcohol specimens

6.2 Urine drug-testing process

Licensees shall establish, implement and maintain a process to test workers holding safety-critical and safety-sensitive positions for the presence of drugs.

Licensees shall develop, implement, and maintain procedures for the administration of urine drug testing including the collection, storage, and transportation of specimens to a designated accredited laboratory.

Licenseses shall retain or maintain competency in the collection, storage and transportation of specimens, and shall ensure that urine collectors are independent from workgroups subject to testing.

Licenseses shall retain and utilize the services of a laboratory accredited by the Substance Abuse and Mental Health Services Administration¹ to analyze and report the results of urine drug specimens.

Licenseses shall direct the accredited laboratory to report positive test results in conjunction with the urine drug panel (initial and confirmatory cut-off thresholds) as established in tables B2 and B3 [13] in appendix B.

Licenseses shall develop, implement, and maintain a procedure for reviewing and verifying positive, adulterated, or invalid urine drug test results from a medical, toxicological or pharmacological perspective. The procedure shall ensure that a medical review officer (MRO) is designated to review, interpret, and verify the test results for each drug class as specified in the urine drug panels [13] in appendix B.

Licenseses shall direct the accredited laboratory to report all positive, adulterated or invalid test results directly to the MRO conducting the drug test review.

In determining whether the donor has violated the fitness-for-duty policy, licenseses shall direct the MRO to:

1. provide the donor an opportunity to explain any alternative reasons for the positive test result
2. only report verified positive test results to the licensee

Licenseses shall direct the MRO to raise any for-cause mandatory referrals for other fitness-for-duty assessments, as necessary, to ensure safety and security.

Guidance

Procedures for the administration of urine drug-testing collection and transportation of specimens should include or make reference to the following:

- licensee-approved collection kits, containers, and other supplies for urine specimen collection
- protocol for chain of custody, including relevant forms
- protocol for urine specimen collection, including collector duties, specific collection site requirements, verification of donor identity, and potential collection errors (recoverable and non-recoverable)
- protocols for handling and processing workers that will be tested, including escort procedures
- protocol for verification and assurance of sample integrity, including tampering and adulteration
- protocols for urine specimen storage and security

¹ Effective May 12, 1998, the Standards Council of Canada (SCC) voted to end its laboratory accreditation program and adopt United States Department of Transportation regulations for the conduct of forensic urine drug testing. The SCC program was formerly known as the Laboratory Accreditation Program for Substance Abuse (LAPSA).

- protocols for urine specimen packaging and transportation to a designated accredited laboratory
- licensee-approved shipment containers
- protocol for shy bladder
- protocol for refusal to test
- initial and continuing training and qualification of urine collectors

Licensees should retain and utilize the services of a third-party provider, where feasible, for the administration, collection, verification and assurance of specimen integrity and chain of custody, and shipment of specimens to an accredited laboratory.

Licensees should consider adopting a dilution protocol and should consider testing samples identified as dilute against the urine drug panel (initial and confirmatory cut-off thresholds) established in table B4 [13] of appendix B.

Licensees should direct the MRO to consult with duly qualified toxicologists, duly qualified pharmacists, or other specialists as required when reviewing, interpreting, and verifying test results. In the event that the MRO determines that there is a legitimate medical explanation for the positive drug test – such as legitimate use of prescription drugs, or a medical condition – the positive test should not be considered verified. However, a fitness-for-duty assessment may be required to determine if the worker is fit for duty.

6.3 Process for positive alcohol and drug tests

Workers who provide a verified positive alcohol or drug test shall be removed from safety-critical or safety-sensitive duties and referred for a mandatory substance abuse evaluation.

The licensee shall not consider the worker for reinstatement to safety-critical or safety-sensitive duties until a recommendation for reinstatement has been received from a duly qualified health professional.

6.4 Substance abuse evaluation process

Licensees shall establish, implement and maintain an assessment process to evaluate workers in safety-critical or safety-sensitive positions for substance abuse and or dependency. Licensees shall identify the conditions under which a substance abuse evaluation is required, including a verified positive alcohol or drug test.

Licensees shall ensure that both licit and illicit drugs are addressed.

The substance abuse evaluation shall be conducted by a duly qualified health professional. Duly qualified health professionals shall be certified by a professional association that includes substance abuse evaluation or shall have received training in substance abuse evaluation and be affiliated with a provincial college of physicians or nurses.

Workers assessed as having a substance abuse or dependency issue shall not return to safety-critical or safety-sensitive duties until they have met conditions for reinstatement, as recommended by the duly qualified health professional.

Guidance

The assessment process should include consideration of the following aspects:

- organizational and procedural interfaces between internal and external stakeholders with defined roles in the management of substance dependency, such as the duly qualified health professionals, supervisors and oversight personnel, and external third-party providers
- reporting to the designated fitness-for-duty program administrator
- referral to the licensee's designated substance testing facility

In determining the duly qualified health professional's qualifications, licensees may consider the following or equivalent certifying bodies as listed below:

- Canadian Addiction Counsellors Certification Federation
- Canadian Society for Addiction Medicine
- Canadian Counselling and Psychotherapy Association
- Association of Cooperative Counselling Therapists of Canada
- Canadian Professional Counsellors Association
- Indigenous Certification Board of Canada
- Canadian Council of Professional Certification

Alcohol-related disorders or drug abuse and dependence may also be diagnosed through medical or psychological assessments.

Licensees should consider adopting relapse agreements with workers assessed with substance dependence.

6.5 Investigative and alcohol and drug screening tools

Licensees shall establish and document the accepted use of investigative and alcohol and drug screening tools included in their respective fitness-for-duty programs. Use of these tools shall be clearly documented, and training programs shall be provided to support the designated personnel in the proper use of the tools.

Guidance

Licensees may consider the adoption of the following investigative and alcohol and drug screening tools:

- fitness-for-duty assessment screening checklist for supervisors
- fitness-for-duty self-assessment screening checklist for workers
- passive alcohol screening devices
- drug detection dogs and devices (for example, ion scanners)
- physical searches

6.6 Records

The licensee shall retain alcohol and drug testing results for workers holding safety-critical or safety-sensitive positions.

Appendix A: Alcohol and Drug Tests by Workgroup and Circumstance

Table A1 provides a summary of the alcohol and drug testing to be conducted, by workgroup and circumstance.

Workgroup		Pre-placement	For-cause reasonable grounds	For-cause post-incident	Follow-up	Random
Certified workers (excluding certified health physicists)		YES	YES	YES	YES	YES
Security personnel	Onsite nuclear response force (NRF) members	YES	YES	YES	YES	YES
	Nuclear response force members	NO	YES	YES	YES	NO
	Designated non-NRF personnel	NO	YES	YES	YES	NO
Certified health physicists		NO	YES	YES	YES	NO
Emergency response teams / fire brigade		NO	YES	YES	YES	NO

Appendix B: Alcohol- and Drug-Testing Thresholds

B1. Blood alcohol concentration ranges and associated actions

Table B1 provides a summary of blood alcohol concentration (BAC) ranges and associated actions to be taken by licensees [12].

Table B.1: Blood alcohol concentration ranges and associated actions to be taken by licensees

BAC range	Action
Below 20 mg/100mL	Negative test – no action required
20 to 39 mg/100mL	Action level – removal of worker from safety-critical or safety-sensitive duties until assessed as fit
40 mg/100mL or greater	Positive test – fitness-for-duty policy violation and removal of worker from safety-critical or safety-sensitive duties until assessed as fit by duly qualified health professional

B2. Immunoassay screening

Table B2 provides the urine analysis drug panel and the associated cut-off values to be used for immunoassay screening [13].

Table B.2: Urine analysis drug panel and associated cut-off values

Drug / Drug Class/ Metabolite	Cut-off value (ng/mL)
Cocaine metabolite (benzoylecgonine)	150
Opiates :	
Morphine, codeine	2,000
Hydromorphone, hydrocodone, oxycodone and oxycodone	100
6-acetylmorphine	10
Amphetamines	500
Cannabinoids	50
Benzodiazepines	100
Methadone metabolite (EDDP)	100

B3. GC-MS and LC-MS/MS confirmation

Table B3 provides the urine analysis drug panel and the associated cut-off values to be used for GC-MS and LC-MS/MS confirmation [13].

Table B.3: Urine analysis drug panel and associated cut-off values for GC-MS and LC-MS/MS confirmation

Drug / Drug class / Metabolite	Cut-off value (ng/mL)
Amphetamines (amphetamine, methamphetamine, MDMA, MDA, MDEA)	250
Cannabinoids (as 11-nor- Δ -9 THC COOH)	15
Cocaine metabolite (benzoylecgonine)	100
Methadone metabolite (EDDP)	100
Opiates:	
Morphine, codeine	2,000
Hydromorphone, hydrocodone, oxycodone and oxycodone	100
6-monoacetyl morphine (6-AM, heroin metabolite)	10
Benzodiazepines (LC-MS/MS):	
Oxazepam, temazepam, diazepam, nordiazepam	50
Alprazolam, lorazepam, triazolam, clonazepam	50
Bromazepam, flurazepam	50

B4. Recommended dilution protocol cut-off concentrations

Table B4 provides the urine analysis drug panel and the associated cut-off values recommended to be used as part of a dilution protocol for immunoassay screening and GC-MS and LC-MS/MS confirmation.

Table B.4: Urine analysis drug panel and recommended associated cut-off values to be used as part of dilution protocol

Drug / Drug class / Metabolite	Screening cut-off value (ng/mL)	Confirmation cut-off value (ng/mL)
Amphetamine/ methamphetamine	100	100
Benzodiazepines	50	50
Cannabinoids	20	6
Cocaine metabolite	15	15
Opiates (codeine and morphine only)	120	120
Methadone metabolite	50	50

Abbreviations

BAC	blood alcohol concentration
CSA	Canadian Standards Association
EAP	employee assistance program
ERT	emergency response team
FFD	fitness for duty
GC-MS	gas chromatography–mass spectrometry
IAEA	International Atomic Energy Agency
LC-MS/MS	liquid chromatography-tandem mass spectrometry
MRO	medical review officer
NRF	nuclear response force
NSO	nuclear security officer

Glossary

accredited laboratory

With respect to drug testing, a laboratory accredited by the Substance Abuse and Mental Health Services Administration to analyze and report the results of urine drug specimen tests.

Alcohol Test Committee

A scientific committee, under the auspices of the Canadian Society of Forensic Science, that evaluates the scientific, technical and law enforcement aspects of breath alcohol. Its scope includes road-side screening devices, the advent of automated breath test equipment, mobile breath testing and provisions to demand blood samples.

approved instrument

With respect to breath samples, an instrument of a kind that is designed to receive and make an analysis of a sample of the breath of a person in order to measure the concentration of alcohol in the blood of that person and is approved as suitable for the purposes of section 258 of the Canadian *Criminal Code* by order of the Attorney General of Canada.

breath alcohol technician

With respect to breath samples, a person that is qualified to operate an approved instrument. Also known as a qualified technician. See also “approved instrument”.

certified

Certified by the Commission under paragraph 21(1)(i) of the *Nuclear Safety and Control Act* (NSCA) or by a designated officer authorized under paragraph 37(2)(b) of the NSCA.

conversion training

Additional training a breath alcohol technician previously qualified to operate an approved instrument is required to take to become qualified to operate a different approved instrument.

designated non-nuclear response force personnel

Nuclear security staff who are authorized under the *Public Agents Firearms Regulations* to possess or have access to prohibited and restricted firearms, items or devices on behalf of and under the authority of the CNSC for the purpose of carrying out their duties. These duties may encompass the storage, transport, handling, maintenance and use of firearms related to nuclear response force functions.

fitness for duty (FFD)

A condition in which workers are physically, physiologically, and psychologically capable of competently and safely performing their tasks.

follow-up testing

As part of a follow-up plan to verify an individual’s continued abstinence from substance abuse.

for-cause testing

With respect to fitness for duty, for-cause testing includes post-incident testing and reasonable grounds testing. See also “post-incident testing” and “reasonable grounds testing”.

high-security site

A nuclear power plant or a nuclear facility where Category I or II nuclear material is processed, used or stored.

incident

Any unintended event, including operating errors, equipment failures, initiating events, accident precursors, near misses or other mishaps, or unauthorized act, malicious or non-malicious, the consequences or potential consequences of which are not negligible from the point of view of protection or safety. (International Atomic Energy Agency Safety Glossary 2007 Edition)

licensing basis

A set of requirements and documents for a regulated facility or activity comprising:

- the regulatory requirements set out in the applicable laws and regulations
- the conditions and safety and control measures described in the facility's or activity's licence and the documents directly referenced in that licence
- the safety and control measures described in the licence application and the documents needed to support that licence application

medical review officer (MRO)

A person who is a licensed physician and board-certified as a medical review officer responsible for receiving and reviewing laboratory results generated by an employer's drug testing program and evaluating medical explanations for certain drug test results.

mood-altering substance

Any product that is legally or illegally used, resulting in cognitive or physical limitations that negatively impact performance on the job.

nuclear security officer (NSO)

A person whose function is to provide security at a high-security site and to whom an authorization referred to in subsection 18(2) of the *Nuclear Security Regulations* has been issued.

onsite nuclear response force (NRF)

- (a) a team of nuclear security officers whose members are
- (i) trained in the use of firearms, authorized to carry firearms in Canada and qualified to use them, and
 - (ii) permanently located at a high-security site or
- (b) a local, provincial or federal police service, a Canadian Forces unit or any other force
- (i) under contract to a licensee
 - (ii) whose members are trained in the use of firearms, authorized to carry firearms in Canada and qualified to use them, and
 - (iii) whose members are permanently located at a high-security site

post-incident testing

An element of for-cause testing, where an alcohol or drug test is administered to a worker designated in a safety-critical or safety-sensitive position as soon as practical after a significant incident, where an act or omission by the worker may have caused or contributed to the event. See also "incident" and "safety significance".

pre-placement testing

An assessment of fitness for duty of an applicant to a safety-critical position before employment begins or a fitness-for-duty assessment conducted before the transfer of an incumbent worker into a safety-critical or safety-sensitive position.

qualification

A recognized level of mastery of task performance in a work-related field, which is normally acquired through successful completion of training. Qualification involves mastery of all the knowledge, skills and safety-related attributes required for successful task performance on the job.

random testing

A statistically random and unannounced basis for selecting which workers designated in safety-critical positions will be subject to alcohol and drug testing, so that each worker has an equal probability of being selected and tested.

reasonable grounds testing

An element of for-cause testing, where workers in safety-critical are required to submit to testing when there is reasonable cause to believe, through observed behaviour, physical condition or after receiving credible information, that the individual is unfit to perform their duties, due to the adverse effects of alcohol or drug use.

safety-critical position

A position certified (see RD-204, *Certification of Persons Working at Nuclear Power Plants*) or authorized (see REGDOC-2.12.1, *High-Security Sites: Nuclear Response Force*) by the CNSC that requires workers to make decisions and take actions that have a direct and immediate impact on nuclear safety and security of the high security site.

safety-sensitive position

A position that has a role in the operation of the high-security site, where impaired performance could result in a significant incident affecting the environment, the public, the health and safety of workers and others at site, or the safety and security of the facility. This includes all workers who are regularly required to rotate through or regularly relieve in safety-sensitive positions.

Those who directly supervise working-level positions, or who may perform the same duties or exercise the same responsibilities as safety-sensitive positions, are deemed to hold safety-sensitive positions.

safety significance

The significance of a situation, event or issue with respect to the impact on meeting the nuclear safety objectives as defined by the International Atomic Energy Agency in document SF1, *Fundamental Safety Principles*. In general, a situation, event or issue has safety significance if it denotes a deviation from the safety case accepted in the licence, in a direction detrimental to safety, such as but not limited to:

- reducing margins to (or exceeding) the accepted limits
- increasing risk to the health, safety and security of persons and the environment
- impairments (various degrees) of the special safety systems or of the safety functions for accident mitigation
- reduction in defence in depth
- events causing radioactive releases and spills of hazardous substances, injuries to workers or the public, etc.

shy bladder

The inability to provide a urine sample as a result of a physiological or psychological medical condition.

shy lung

The inability to provide a sufficient amount or volume of breath to permit a valid alcohol test as a result of a physiological or psychological medical condition.

urine collector

A trained person who instructs and assist workers at an urine collection site, who receives and makes an initial inspection of the specimen provided by workers, and who initiates and completes a custody control form.

verified positive drug test

A drug test result from a Substance Abuse and Mental Health Services Administration-certified laboratory that has undergone review by a medical review officer, and that has been determined by the medical review officer to be a positive test result for which no legitimate medical explanation has been provided.

worker

A person who performs work that is referred to in a licence, including someone directly employed by a licensee, contractor or subcontractor.

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Additional Information

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CNSC Regulatory Document Series

Facilities and activities within the nuclear sector in Canada are regulated by the Canadian Nuclear Safety Commission (CNSC). In addition to the *Nuclear Safety and Control Act* and associated regulations, these facilities and activities may also be required to comply with other regulatory instruments such as regulatory documents or standards.

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