



# Fitness for Duty: Proposals for Strengthening Alcohol and Drug Policy, Programs and Testing

Discussion Paper DIS-12-03

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**Fitness for Duty: Proposals for Strengthening Alcohol and Drug Policy, Programs and Testing**  
Discussion Paper DIS-12-03

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## **Preface**

Discussion papers play an important role in the selection and development of the regulatory framework and regulatory program of the Canadian Nuclear Safety Commission (CNSC). They are used to solicit early public feedback on CNSC policies or approaches.

The use of discussion papers early in the regulatory process underlines the CNSC's commitment to a transparent consultation process. The CNSC analyzes and considers preliminary feedback when determining the type and nature of requirements and guidance to issue.

Discussion papers are made available for public comment for a specified period of time. At the end of the comment period, CNSC staff review all input, which is then posted on the CNSC Web site to allow stakeholders the opportunity to comment on the feedback received.

The CNSC considers all comments received from this consultation process in determining its regulatory approach.

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## Executive Summary

Human performance is a key contributor to nuclear power plant safety. Recognizing this, the Canadian Nuclear Safety Commission (CNSC) requires nuclear power plants to implement and maintain human performance programs.

Fitness for duty (FFD) is one factor that affects human performance. An important element of being fit for duty is being free from the influence of alcohol, illicit drugs, or performance-altering medication (whether prescription or over-the-counter medication), while at work.

This paper presents the CNSC's proposals for alcohol and drug policies, programs, and testing requirements for Canada's nuclear power plant licensees. Although these proposals are currently limited to nuclear power plants, the CNSC is seeking feedback on expanding the scope to include other licensed nuclear facilities.

In this discussion paper, the CNSC proposes a three-pronged approach:

1. The CNSC proposes that nuclear power plant licensees take measures to prevent, deter, detect, and remediate potential alcohol and drug use. Nuclear power plant licensees would be required to take steps to prevent workers from:
  - bringing, keeping, or consuming alcohol, illicit drugs, illegal drugs or drug paraphernalia within the premises or on the grounds of a nuclear power plant
  - working at a nuclear power plant while under the influence of alcohol or any drug that impairs, or could impair, a worker's ability to perform his or her duties safely
2. The CNSC believes that nuclear power plant licensees should introduce supportive measures to address substance use. In particular, the CNSC's intent is to ensure that workers and supervisors understand their roles and responsibilities. To this end, the CNSC is considering requiring nuclear power plant licensees to have the following four program elements in place:
  - awareness and education programs for workers
  - access to assistance for workers
  - training for supervisors
  - investigative tools
3. The CNSC is proposing that every individual who is granted unescorted access to the protected areas of a nuclear power plant be subject to a comprehensive set of alcohol and drug tests, which would include random testing. Licensees would be required to develop and implement substance testing programs, and to report violations to the CNSC.

It is recognized that these proposals represent a major strengthening of existing fitness-for-duty requirements, as they relate to substance use. The CNSC believes in being proactive, in order to reduce the risk of impairment-related safety events at Canada's nuclear power plants.

Addressing the topic of substance use is a complex and sensitive issue. In order to provide reasonable assurance that nuclear facilities are safe and secure, consideration must be given to enhancing the CNSC's regulatory framework related to the adverse effects of substance use on the ability of workers to safely and competently perform their assigned duties. Regulators and organizations across Canada have approached this topic differently. The CNSC's primary objective for this discussion paper is to seek the views of the nuclear industry, the Canadian public and other stakeholders on the proposed path forward for regulating the FFD subset of substance use and abuse. The CNSC will very carefully consider the comments received before moving forward with any changes to the regulatory framework in this area.

## 1.0 Introduction

Human performance affects virtually every aspect of a nuclear power plant's safety. In modern, complex industries, research has shown that human error is a causal factor in approximately 80 percent of events [1, 2, 3, 4]. Given the high percentage of events where human and organizational factors are known to play a role, serious consideration must be given to all measures that can reduce the potential for human error.

One factor that affects human performance is fitness for duty (FFD), which is defined as:

*A condition in which workers are physically, physiologically, and psychologically capable of performing the tasks of their assigned jobs within the required standards of safety, attendance, quality, efficiency and behaviour [5].*

In safety-sensitive industries such as the nuclear industry, FFD programs should provide assurance that workers are free of any impairment that could hinder their ability to safely and competently perform the duties of their position. An important aspect of being fit for duty is being free from the influence of alcohol, illicit drugs, or performance-altering medication (whether prescription or over-the-counter medication), while at work.

## 2.0 Purpose

Clearly, substance use can and does significantly impair human performance. There is evidence of this in our daily lives; for example, on our roads. The potential safety consequences of alcohol- or drug-induced impairment in nuclear power plants are quite severe. Therefore, the CNSC takes this issue very seriously, and intends to proactively address substance use.

The purpose of this discussion paper is to:

- describe the concept of FFD, and why it is especially important to the nuclear industry
- highlight the necessity of addressing substance use and abuse, and present what has been done on this issue within and outside Canada, in the nuclear industry and elsewhere
- identify the current FFD-related requirements of nuclear power plant licensees and outline potential areas for improvements to the CNSC's regulatory framework – in order to prevent, deter, detect, and remediate substance use in Canada's nuclear power plants

Although the scope of these areas for improvement is currently limited to nuclear power plants, the CNSC is seeking feedback on expanding the scope to include other licensed nuclear facilities.

It is important to note that this initiative is a proactive first step in strengthening the CNSC's regulatory framework in support of FFD. This initiative is not in response to any evidence of

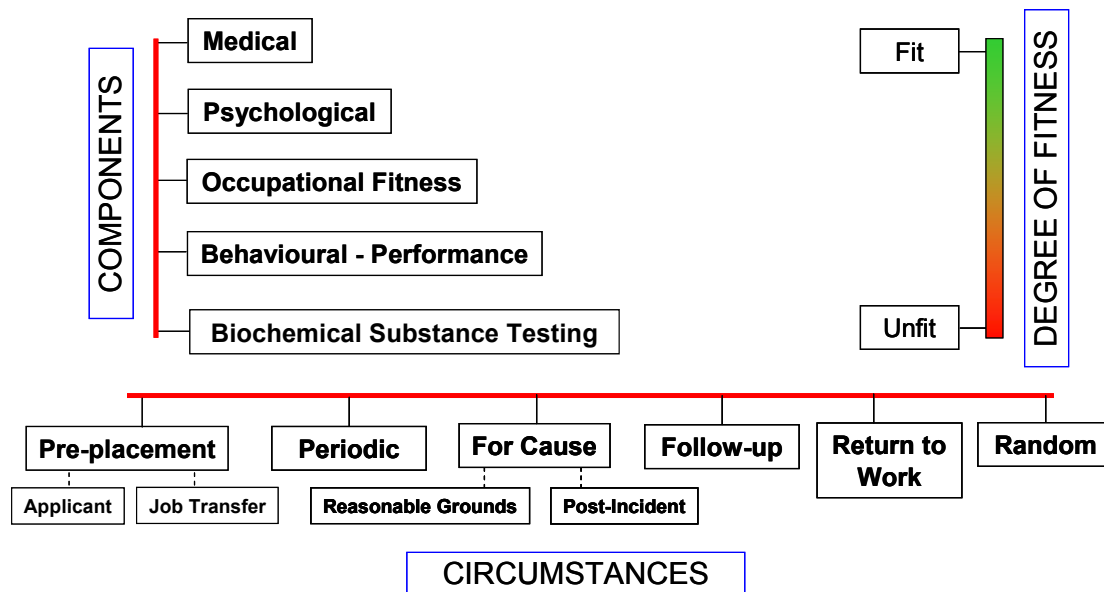
safety issues related to FFD or substance use in Canada’s nuclear industry. However, over the last few years the topic of FFD has been raised several times during Commission Tribunal hearings and meetings, and the question as to whether or not the CNSC should do more in this area has been raised. Ultimately, these proposals should be viewed as part of the CNSC’s ongoing process for continuous improvement of the regulatory oversight of its licensees.

Note: The terms “substance” and “alcohol and drug” are used interchangeably throughout this document. The term “biochemical” is used specifically in reference to substance testing.

### 3.0 What fitness for duty assessment means

The primary objective of any assessment of FFD is to ensure individuals have the capacity to effectively perform their job duties without risk to their own or others’ health and safety, or to the safety of the nuclear facility, the Canadian public or the environment [6].

FFD can be assessed in a variety of ways at different times. Figure 1 shows the components used to assess FFD and the circumstances when assessments may be conducted. A worker’s degree of fitness may be categorized across a range – from fit to unfit to perform the duties of his/her position. Biochemical substance testing is one of the components used to assess FFD.



**Figure 1:** A conceptual framework of FFD showing the components used to assess FFD and the circumstances when assessments may be conducted. The worker’s degree of fitness may be categorized across a range from fit to unfit to perform the duties of his/her position.



### **Components of fitness for duty – What to assess?**

Medical, psychological, occupational fitness, behavioural-performance assessments or biochemical substance testing may be conducted to determine if a worker has the capacity to safely perform the duties of his or her assigned job. In biochemical substance testing, a determination of impairment due to the presence of alcohol and/or drugs is established using various tests and analytical methods. Drug- and alcohol-related impairment and associated disorders may also be screened through medical, psychological or behavioural-performance evaluations.

### **Circumstances of fitness for duty – When to assess?**

FFD assessments may be completed under the following circumstances:

- during pre-placement exams
- on a periodic basis
- in a for-cause evaluation (if a supervisor, through observed behaviour, has reasonable grounds to believe a worker is unfit, or if the result of an investigation into an accident or event reveals that post-incident testing is warranted)
- as follow-up, to confirm abstinence after the completion of a treatment program for substance abuse or dependence
- on a random and unannounced basis

### **Safety-sensitive work – Who to assess?**

When defining the population of workers and the parameters of the FFD assessment that these workers should be subject to, it is important to consider the safety and security consequences of impaired human performance. In Canada, some industries apply the same FFD requirements to everyone, whereas others apply more stringent standards to those working in positions designated as safety-sensitive. Some industries designate an entire site as safety-sensitive. This is the case for many oil and gas sites located in the Northern Alberta oil sands [7].

### **Job requirements – What to assess against?**

Typically, FFD assessments evaluate a worker with respect to a specific job under specific working conditions [8]. When an employer in a safety-sensitive industry adopts standards or establishes requirements related to FFD, it is possible that the standard may be considered discriminatory under the *Canadian Human Rights Act* [9]. However, under the *Canadian Human Rights Act*, employers may implement standards or bona fide occupational requirements that are exclusionary, on the basis that the exclusionary worker qualification is legitimately required.

### **Degrees of fitness for duty – Outcome of a fitness-for-duty assessment**

Following the completion of a FFD assessment, a qualified health professional will categorize the job applicant's or incumbent's fitness with respect to the qualifications needed for the position. The health professional will report that the applicant or incumbent worker is either fit,

unfit, or fit to perform with restrictions or conditions. These conditions may either be temporary or permanent.

#### **4.0 Why fitness for duty is important**

Nuclear power plants are designed, constructed and operated with safety first and foremost in mind. That is why the nuclear industry has embraced the concept of “defence in depth”, which preserves three basic safety functions (controlling the power, cooling the fuel, and containing the radioactive material) that underlie the safety technology of nuclear power. The various levels of defence in depth relate to protection against increasingly hazardous operational plant states [10]. Defence in depth is closely linked to the provision of successive physical barriers to prevent the release of radioactive material into the environment, but it also includes many other overlapping protection measures (e.g., quality assurance, personnel certification and training, procedures). If one level of defence in depth were to fail, the subsequent level comes into play, and this is repeated in a step-wise manner moving up through the levels. When properly applied, the concept of defence in depth ensures that no single equipment or human failure would lead to harm to the public or the environment, and that combinations of failures that would result in harm are only remotely probable [11].

Across the levels of defence in depth, nuclear power plant licensees are required to have complementary means of protection, including human performance programs, which consider the role of human factors in nuclear safety. Human performance programs aim to minimize the potential for human errors and/or failures during design, construction, operation, maintenance, refurbishment and decommissioning activities within Canada’s nuclear facilities.

The importance of FFD in relation to human errors and failures has been recognized internationally and within Canada’s safety-sensitive industries.

#### **4.1 International leadership in the nuclear industry**

At the international level, the International Atomic Energy Agency (IAEA) has pointed to the need for strong FFD programs. The IAEA develops nuclear safety standards to promote high levels of safety in nuclear energy applications. The IAEA’s framework that supports FFD is embedded in two safety requirement documents [12, 13] and in numerous safety guides.

For all nuclear facilities, the IAEA recommends that regulators inspect licensees’ FFD programs and evaluate their effectiveness [14]. Regulators are also to ensure nuclear facility operators have “guidelines on fitness for duty in relation to hours of work, health, and substance abuse” [15].

With respect to drugs and alcohol, the IAEA recommends that all nuclear facilities have guidelines on FFD related to substance use. Several recommendations directed to nuclear power plant licensees about substance use are equally relevant to all nuclear facilities. Licensees are to establish and implement a policy applicable to employees, contractors and visitors, which addresses “the illicit use of drugs or tobacco and alcohol abuse, in consonance with national regulations” [16]. Licensees are to have methods for identifying those with a tendency toward alcohol or drug abuse, and should establish administrative controls to allow FFD of shift

personnel to be observed, verified and controlled. As well, the IAEA also advises against employing those prone to alcohol or drug abuse in safety-related tasks [17].

Although the IAEA does not state a position on alcohol or drug testing, several countries conduct substance testing within their nuclear power plant facilities. Regulators in Finland and the United States require alcohol and drug testing at nuclear power plant sites. Furthermore, although not required by the nuclear regulator, it is common practice for nuclear power plant licensees in Sweden and the United Kingdom to conduct alcohol and drug testing.

#### **4.2 Experience within other Canadian industries**

Other industry sectors, such as transportation, petroleum and mining, have recognized and demonstrated the value of strong FFD programs aimed specifically at addressing substance use. Indeed, the policies and practices currently found in these sectors are more aggressive than those in Canada's nuclear industry.

Transport Canada (TC) has a substance use policy and related requirements that are documented in legislative requirements in acts and regulations and in regulatory standards and rules. TC has several provisions to prevent, deter, detect and remediate substance dependence in those holding safety-sensitive positions. Substance dependence is assessed during pre-placement and periodic medical examinations. As Canada's transportation regulator, TC has clear legislative requirements that prohibit working under the influence of alcohol or drugs in all modes of transport. It should be noted that TC does not have any formal legislative requirements that mandate alcohol or drug testing. However, follow-up substance testing is an expectation for pilots, seafarers and railway workers in order to have their medical certificate reinstated following substance abuse treatment.

The Transportation Safety Board (TSB) investigates accidents in the air, rail, marine and pipeline modes of transportation. TSB investigators have the authority to require a medical examination or autopsy that may include alcohol and/or drug testing. A medical examination can be required when there are reasonable grounds, including impairment where an exam "is, or may be, relevant to the investigation".

It is worth noting that, within the transportation industry, the practices in the area of alcohol and drug policy and testing far exceed the requirements established by the transportation regulator. While there may be a number of factors contributing to this phenomenon, it is clear that the transportation industry has placed high priority on safety and the prevention of impaired operation of a vessel, aircraft, railway equipment, or a motor vehicle. In addition, this industry undoubtedly recognizes the damaging impact that substance use can have on safety performance, as well as on worker productivity.

In addition to transportation, several other safety-sensitive industry sectors (e.g., petroleum, mining, and utilities) have implemented substance abuse policies and testing. According to one recent study, about 40 percent of work sites in transportation, construction or resource sectors have implemented drug testing programs [18].

In a sample of Canadian companies that have chosen to adopt a policy on substance use, reasonable cause, post-incident, and follow-up testing have been almost universally implemented. While a smaller percentage of companies performs pre-placement testing for job applicants, even fewer conduct random testing [7]. About three quarters of the companies in this sample have adopted pre-placement testing for job applicants. However, random testing is required by just under one fifth of these companies. A slightly higher percentage of companies in the transportation sector has adopted random testing compared to other sectors (mining, oil and gas, utilities).

## 5.0 Fitness for duty requirements in Canada's nuclear industry

Canada is a member of the IAEA and a signatory to the *Convention on Nuclear Safety*, adopted in 1994. Canada is, therefore, committed to ensuring “that the capabilities and limitations of human performance are taken into account throughout the life of a nuclear installation” (Article 12) [19].

The CNSC regulates human performance through the establishment of high-level regulatory requirements, in sections 12 and 17 of the *General Nuclear Safety and Control Regulations*. In addition, Canadian nuclear power plant licensees are required to have a management system that complies with Canadian Standards Association (CSA) N286-05, which states that “...to support safe operation, management is expected to define and implement practices that contribute to excellence in worker performance” [21].

The CNSC requires Canadian nuclear power plants to implement and maintain a human performance program. Guidance on the content of effective human performance programs is provided in a nuclear power plant's *Licence Conditions Handbook*. The CNSC recommends that human performance programs address and integrate the full range of human factors' considerations across all organizational functions and activities, to ensure that workers are fully supported in carrying out their work safely. In the near future, the CNSC intends to develop regulatory documents on the general topic of human performance, and separate documents covering broad FFD requirements, in addition to a specific document on hours of work and fatigue management. These documents will all be made available for public comment.

Several existing CNSC regulatory documents that address elements of FFD have been incorporated into power reactor operating licences or *Licence Conditions Handbooks* for each of Canada's nuclear power plants. These include:

- RD-204, *Certification of Persons Working at Nuclear Power Plants* [22]
- G-323, *Ensuring the Presence of Sufficient Number of Qualified Staff at Class I Facilities Minimum Staff Complement* [23]
- RD-363, *Nuclear Security Officer Medical, Physical and Psychological Fitness* [24]
- S-298, *Nuclear Security Response Force (Restricted access document)* [25]

As well, under the authority of the *Nuclear Security Regulations*, all nuclear facilities in Canada are required to have a supervisory awareness program “to ensure that its supervisors are trained to recognize behavioral changes in all personnel ... that could pose a risk to security at a facility”.

Canadian nuclear power plants are complying with current CNSC requirements respecting FFD. While licensees have various methods for assessing FFD, ranging from medical examinations to supervisory observation programs, provisions differ significantly between licensees. Most licensees have embedded the concept of safety-sensitive positions into their FFD programs, and have applied additional requirements for medical examinations.

Significantly, Canada’s nuclear power plants have clear rules against possessing or being under the influence of alcohol and drugs at work, and specify consequences for violations. Moreover, employees are expected to self-report any conditions that may affect their ability to perform safely, including the use of prescription or over-the-counter medication. In addition, licensees rely on peer-reporting and supervisory observation. Although biochemical substance testing is not explicitly required in Canada’s nuclear power plants, there is an exception: one site stipulates that a worker who has been treated for addiction to alcohol or drugs must submit to substance testing to confirm abstinence, as a condition of returning to work.

While the CNSC’s requirements are important, they currently do not explicitly require licensees to be proactive in the area of substance use.

**Although the CNSC’s FFD requirements do not explicitly require licensees to address substance use, the CNSC is seeking feedback from the nuclear industry, the Canadian public and other stakeholders on the development of additional regulatory requirements that address substance use.**

## **6.0 Proposals for strengthening alcohol and drug policy, programs and testing**

The CNSC believes that current alcohol-and-drug-related program requirements need to be strengthened, to address potential substance use and abuse issues. The CNSC’s intent is to be proactive and to adopt a precautionary approach in this area. The CNSC recognizes a need for additional, stronger and more explicit requirements to address substance use in the Canadian nuclear industry.

In moving forward, the CNSC proposes to build upon the foundation of current requirements and guidance for FFD using a three-pronged strategy. Additional requirements for nuclear power plant licensees would be developed to ensure that licensees:

1. establish an appropriate policy framework
2. create supportive programs
3. introduce effective biochemical substance testing

## 6.1 Policy framework

The CNSC believes it is crucial to implement a consistent approach across nuclear power plant licensees. The CNSC intends to require that, at a minimum, all nuclear power plant licensees adopt the following policy requirements:

Licensees should implement a policy that strictly prohibits the use or possession of alcohol or drugs by workers while on duty. Under this policy, licensees should take steps to prevent workers from:

- i. bringing, keeping, or consuming alcohol, illicit drugs, illegal drugs or drug paraphernalia within the premises, or on the grounds of a nuclear facility
- ii. working at a nuclear facility while under the influence of alcohol or any drug (illicit, illegal, prescription, or over-the-counter medication) that impairs or has the potential to impair a worker's ability to perform duties safely

It is proposed that all persons with unescorted access to the protected areas of Canada's nuclear power plants be subject to these measures. In Canada's nuclear power plants, workers require specialized training to safely carry out their duties in the operation or maintenance of equipment that controls, cools, contains or carries radioactive substances. Given the hazardous nature of work performed in these facilities, the CNSC considers that the entire protected area of each nuclear power plant is a safety-sensitive site. Therefore, all stages of a nuclear power plant's lifecycle would need to be considered by licensees, including the construction, operation, refurbishment, and decommissioning stages.

**Although the scope of this initiative is currently limited to nuclear power plants, the CNSC is seeking feedback on whether or not the proposed substance policy, program, and testing requirements should be expanded to other licensed nuclear facilities in Canada, including research reactors, mines, mills and processing facilities.**

## 6.2 Support programs

To support these policies, it is proposed that nuclear power plant licensees be required to implement measures to ensure that workers and supervisors understand their roles and responsibilities. These program requirements would address several key areas, to ensure that workers remain free from the performance-altering effects of alcohol and drugs, while on duty. At a minimum, the CNSC considers the following four elements to be critical:

- **Awareness and education programs for workers**

To ensure that workers understand how to comply with the policy requirements, licensees would provide ongoing training to individuals who are granted unescorted access. An awareness and education program ought to include a description of the safety risks associated with substance

use and its potential performance impacts, and cover specific requirements or guidelines on issues, such as on-call and off-duty conduct.

- **Access to assistance**

Licenses would be required to provide workers with access to an employee assistance program (EAP). Typically, EAPs address a broad range of issues that workers may face, including mental, emotional, family, financial, health, and alcohol- or drug-related problems. Licenses would be required to ensure that the EAP could be accessed voluntarily by workers, or be required through supervisor referral. As well, licenses would be required to refer workers to a substance abuse professional as appropriate. Licenses would also be required to define expectations for self-reporting and peer-reporting.

- **Supervisory awareness programs**

Licenses would be required to ensure that the use of alcohol and drugs is specifically addressed in supervisory awareness programs. These programs are already required under sections 38 and 48 of the *Nuclear Security Regulations*. The programs would need to ensure that supervisors have the capability to recognize safety-significant behavioural changes related to alcohol or drug impairment.

- **Investigative tools**

If a licensee has reason to believe that a worker with unescorted access is unfit for duty or is in violation of the alcohol and drug policy, the licensee should investigate. Licenses would be required to develop and implement measures to investigate suspected workers, including unfit-for-duty investigations, searches, and escort procedures.

**Although the policy and supportive program requirements outlined in this proposal address several key areas to ensure that workers remain free from alcohol and drugs while at work, the CNSC is seeking feedback on whether or not these measures are sufficient, or should be expanded to include biochemical substance testing requirements.**

In addition to the measures outlined above, alcohol and drug testing is another investigative tool that is able to provide confirmation of alcohol impairment or likely drug impairment. This is discussed in more detail below.

### **6.3 Biochemical substance testing**

The CNSC believes that biochemical substance testing is an option to consider in addressing potential substance use at Canada's nuclear power plants. Before describing the biochemical substance testing requirements that the CNSC is proposing, it is useful to briefly review the state of accepted drug and alcohol testing practices within Canadian workplaces.

In Canada, there are no provincial or federal level legislative requirements that define the parameters of substance testing in the workplace. Despite the lack of direction, "companies in

several industry sectors across the country have introduced employee drug and alcohol testing over the past 20 years” [7]. Although safety is universally recognized as the primary motivation for implementing these substance-testing policies, the following are some potential reasons why industry practices have evolved in the absence of legislative requirements: due diligence and employer obligations under the *Criminal Code* [27]; arbitration and court rulings on industry policies; major transportation accidents; union’s (Operation Redblock) [28] and industry worker association’s involvement (Airline Pilots Association) [29]; and cross-border requirements for motor carriers and rail imposed by the U.S. Department of Transportation.

In the absence of specific Canadian legislation on substance testing, decisions and precedents established in various legal rulings define the accepted substance testing practices in Canada [7]. As the jurisprudence continues to evolve, the courts have found alcohol and drug testing acceptable in the following circumstances:

- **pre-placement testing** of applicants or incumbents transferring to safety-sensitive positions
- **for cause:**
  - **reasonable grounds testing** of safety-sensitive positions;
  - **post-incident** testing of safety-sensitive positions;
- **follow-up testing** as a condition of returning to a safety-sensitive position, following treatment for a substance use disorder
- **random testing** (for alcohol only) of employees in safety-sensitive positions, in workplaces with inherent risks [7]

The Canadian Human Rights Commission’s most recent *Policy on Alcohol and Drug Testing* is in general agreement with the testing practices outlined above. With respect to random alcohol testing, the Canadian Human Rights Commission’s policy requires that the employers notify workers “that alcohol testing is a condition of employment” and that “the employer must meet the duty to accommodate the needs of those who test positive” [30].

A recent review of Canadian case law has generally shown that industries have developed policies that require substance testing after the occurrence of significant events involving alcohol or drugs in the workplace. The nuclear industry cannot afford to be reactive, given the potential impact of a nuclear accident.

### ***Proposed biochemical substance testing requirements***

Despite the present limitations inherent in current drug testing technology, established by the Canadian Human Rights Commission and in arbitral and legal jurisprudence, it is worth considering the balance of interest between individual privacy and the safety of a nuclear facility and its surrounding communities. Given the potential safety risks that an impaired worker poses to a nuclear facility, the CNSC believes that the balance of interest should favour the safety concerns of the public. The CNSC’s position is that licensees ought to consider all reasonable measures, including random alcohol and drug testing, to prevent, deter, detect and remediate any potential substance use at Canada’s nuclear power plants.



Moreover, the CNSC has concluded that limiting substance testing exclusively to individuals in safety-sensitive positions is insufficient, as individuals working in other positions can have an impact on nuclear safety. Consequently, the CNSC proposes that every individual who is granted unescorted access to the protected areas of nuclear power plants be subject to alcohol and drug testing.

**Although substance testing is being proposed for all individuals with unescorted access to the protected areas of nuclear power plants, the CNSC is seeking feedback on the target population for testing. Some potential options include:**

- **all individuals with unescorted access to the protected areas**
- **only those individuals designated in safety-sensitive positions, or**
- **all individuals that may impact the safety of a nuclear facility by virtue of their work, even if they do not have access to the nuclear site (e.g., vendors, design organizations etc.)**

In line with the CNSC's proposed approach, all individuals with unescorted access would be required to submit to alcohol and drug testing in the circumstances outlined below:

- **Pre-placement testing**

Before being granted unescorted access, every person would be required to submit to an alcohol and drug test. Additionally, an applicant or incumbent transferring to a position with unescorted access would be required to submit to a pre-placement alcohol and drug test. A substance test should not be used as an initial employment screening tool, and should not take place before determining the candidate has all other qualifications necessary to gain unescorted access.

- **For-cause testing**

For-cause testing has two elements: reasonable grounds and post-incident testing.

Under reasonable grounds testing, persons with unescorted access would be required to submit to for-cause testing when there is reasonable cause to believe that an individual is unfit to perform their duties, due to the adverse effects of alcohol or drug use while on duty. The grounds for reasonable cause must be independently verified through an evidence-based observation, and may include: breath odour, observed use or possession of a substance, speech patterns, physical appearance and behaviour, or an episode or events that suggest irrational/ reckless behaviour.

Under post-incident testing, a person with unescorted access would be required to submit to a test following an event where his/her involvement caused or contributed to an accident that led to death, injury, or significant damage to the environment or safety-related equipment. Near misses and associated rule violations should be considered in deciding whether to conduct a substance test.

- **Follow-up testing**

Workers that have been identified and diagnosed with a substance abuse or dependency disorder may be required to complete a treatment program, under the supervision of a substance abuse professional or an addiction medicine specialist. Upon the re-instatement of the worker to his or her duties and/or unescorted access, the individual would be required to submit to unannounced alcohol and drug testing, for a period of two years. The minimum frequency for unannounced testing would be once per quarter.

- **Random testing**

Workers with unescorted access would be required to submit to unannounced alcohol and drug testing. Random testing means that every worker in the testing pool, regardless of whether or not they have been tested previously, has an equal chance of being selected. The CNSC is considering setting the annual testing rate at 50% for both alcohol and drugs.

**Although random alcohol and drug testing requirements are being considered in this proposal, the CNSC is seeking feedback on where the balance should be set between the individual privacy rights of workers and the safety of a nuclear facility and its surrounding communities.**

Licensees would be required to develop and implement substance testing programs consistent with good practices, which must include the use of a qualified third-party administrator to collect and analyze samples, to perform medical reviews, and to report the test results to licensee program administrators [7]. Licensees would be required to test for illicit drugs and metabolites, as outlined in Appendix A of this document. Licensees would also be required to report any policy violations – including positive alcohol or drug test results – to the CNSC, through established reporting mechanisms.

## 7.0 Conclusions

FFD is a vital element of a human performance program within any safety-sensitive industry, and is currently required of all nuclear power plant licensees in Canada. The CNSC has obligations to protect the health and safety of persons and the environment, and to maintain national security. It is therefore imperative to consider all reasonable measures to minimize potential human performance issues due to alcohol or drugs.

Ensuring that Canada's nuclear workers remain free from the influence of alcohol and any performance-impairing drug while on duty is a priority of the CNSC. Consequently, the CNSC proposes to strengthen the regulatory requirements related to substance use policies, programs, and testing.

The CNSC is confident that the measures outlined in this discussion paper would ensure a consistent approach is taken by all licensees. These measures, if implemented, would also

provide greater assurance that licensees would take steps to prevent, deter, detect, and remediate any alcohol or drug use at Canada's nuclear power plants.

The CNSC actively encourages the nuclear industry, other stakeholders and the public to voice their views on these proposals.

Please send any comments or feedback to:

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## Appendix A: Illicit and Performance-Altering Drugs

### Illicit drugs:

The CNSC is considering developing a list of illicit drugs or drug metabolites to be tested for, similar to that of the U.S. Nuclear Regulatory Commission. The panel of drugs that nuclear power plant licensees would be required to test its workers for, at a minimum, would include the following illicit drugs – based on the recent 2008 U.S. NRC comments provided to the U.S. Department of Health and Human Services' *Mandatory Guidelines for Federal Workplace Drug Testing* (HHS Guidelines) [31]:

- marijuana metabolite
- cocaine metabolite
- opiates (codeine, morphine, 6-acetylmorphine)
- amphetamines (amphetamine, methamphetamine, methylenedioxyamphetemine (MDMA), methylenedioxyamphetamine (MDA), methylenedioxyethylamphetamine (MDEA))
- phencyclidine (PCP)

**Although the CNSC is considering developing a list of drugs to be tested and each drug's threshold for impairment, the CNSC is seeking feedback on whether or not the CNSC should pursue this.**

### Performance-altering medications:

The CNSC is considering developing requirements to ensure that workers at nuclear power plant licensees understand and are informed of their reporting obligations to management on their use of any performance-altering prescription drugs and over-the-counter medication, as specified in section 6.0. At a minimum, licensees should assess whether to temporarily restrict or modify the protected area access of workers who report for duty under the influence of the following drug categories. It is recognized that this list of drugs is not exhaustive, as there are numerous other prescription drugs and over-the-counter medication that, when taken, may negatively affect performance and potentially impact safety. In addition, the use of any prescription drug for which the worker does not possess or have a valid prescription should be prohibited, particularly when the drug is known to have an impact on human performance.

- anticonvulsants
- antihistamines
- anti-inflammatories
- barbiturates
- cold tablets and cough mixtures
- motion sickness drugs (e.g., Gravol, Antivert)
- muscle relaxants
- narcotic analgesics (e.g., Demerol, Darvon, codeine)
- stimulants (e.g., medications sold as diet pills, methylphenidate)

## Glossary

**behavioural-performance component:**

An assessment of behaviour and performance either through subjective based observation or by the administration of more objective motor, perceptual or higher cognitive tests [32].

**bona fide occupational requirement:**

A condition of employment that is imposed in the belief that it is necessary for the safe, efficient, and reliable performance of the job and which is objectively, reasonably necessary for such performance (Canadian Human Rights Commission Web site). A standard or rule that is integral to carrying out the functions of a specific position.

**illegal drug:**

In addition to illicit drugs, the unauthorized use or possession of any drug listed in Schedule IV of the *Controlled Drugs and Substances Act* [33], for which the individual does not have a valid prescription acquired from a registered practitioner.

**illicit drug:**

Any drug listed in Schedule I, cannabis in Schedule II and amphetamines listed in Schedule III of the *Controlled Drugs and Substances Act* [33].

**medical component:**

An objective judgment of fitness rendered by a physician through a comparison of the working conditions and the associated health standards required for a specific job to the health and functional capabilities of a person determined from medical findings (history, examination, laboratory test) and clinical opinion [34].

**occupational fitness component:**

An assessment of physical fitness against criteria that are directly related to essential task elements of the specified job and in compliance with the established three step test for determining a bona fide occupational requirement.

**psychological component:**

An assessment completed by a psychiatrist or occupational psychologist, to determine the presence of sufficient psychiatric health to perform the specified duties of a position.

An evaluation completed by a psychiatrist or occupational psychologist to rule out the presence of any psychiatric impairment that could preclude work - that includes all mental and emotional disorders including substance abuse and dependence [5].

**safety-sensitive position:**

A position which the company determines has a role in the operation, where impaired performance could result in a significant incident affecting the health and safety of employees, customers, customers' employees, the public, property or the environment. This includes all

employees who are regularly required to rotate through or regularly relieve in safety sensitive positions.

Supervisors and managers who directly supervise the 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 [35].

As well, any determination of a safety-sensitive position should consider the work of the employee, the nature of equipment and material that he or she handles [35].

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