Canada's Nuclear Regulator

Human performance management
Human Factors

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October 2000 P-119, *Policy on Human Factors*

Preface

This regulatory document is part of the CNSC's human performance management series of regulatory documents, which also covers personnel training, personnel certification and fitness for duty. 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-2.2.1, *Human Factors*, describes how human factors are taken into consideration in the CNSC's regulatory activities.

This document supersedes guidance document P-119, *Policy on Human Factors*, published in July 2000.

Note: In 2013, the CNSC adopted a revised regulatory framework structure with a new system for naming and numbering regulatory documents. This document has been published as part of the CNSC's initiative to bring regulatory documents that were published before the current framework was adopted into the new system. The requirements and guidance in this document have not changed.

For information on the implementation of regulatory documents in the licensing basis, and on the graded approach, see REGDOC-3.5.3, *Regulatory Fundamentals*.

The words "shall" and "must" are used to express requirements 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.

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1. Introduction

1.1 Purpose

The purpose of this regulatory policy document is to provide assurance that the Canadian Nuclear Safety Commission (CNSC) considers issues with respect to human factors in its regulatory activities.

1.2 Scope

This regulatory document describes how the CNSC will take human factors into account during its licensing, compliance and standards-development activities.

1.3 Relevant legislation

The following provisions of the *Nuclear Safety and Control Act* (NSCA) and the regulations made under it are relevant to this document:

- subparagraphs 9(a)(i) and 24(4)(b) of the NSCA
- paragraphs 3(1)(e), (i) and (k); paragraphs 12(1)(a), (b), (e); paragraph 16(1); paragraphs 17(a–e) of the *General Nuclear Safety and Control Regulations*
- paragraphs 3(d), (d.1), (f), (g), (h), (i); paragraphs 4(d), (e); paragraphs 5(c–i), (l), (m); paragraphs 6(a–e), (g), (h), (k–n); paragraphs 7(b–e), (h–j) of the *Class I Nuclear Facilities Regulations*

2. Definition and Examples of Human Factors

For purposes of this regulatory document, the term “human factors” means factors that influence human performance as it relates to the safety of a nuclear facility or activity over all phases, including design, construction, commissioning, operation, maintenance and decommissioning.

Some examples of human factors are: organizational and management structures, policies and programs; the allocation of functions to humans and machines; the design of user interfaces; staffing provisions; job-design features; work schedules; the design of written procedures; training, and the physical work environment.

3. The CNSC’s Approach to Human Factors

The CNSC recognizes that human factors can affect the performance of the facilities and activities that it regulates:

- When reviewing applications for CNSC licences in accordance with any applicable laws, procedures and guidelines, the CNSC takes into account human factors that could impact the CNSC’s mandate for protection of the environment, the health and safety of persons, the

maintenance of national security and the implementation of international obligations to which Canada has agreed.

- The CNSC evaluates the measures proposed by licence applicants, and the measures implemented by licensees to address human factors, to determine whether the measures provide for protection of the environment, the health and safety of persons, the maintenance of national security and the implementation of international obligations to which Canada has agreed.
- The CNSC provides, where needed, licence applicants and licensees with written guidance on how to address human factors that could affect the safety of CNSC-regulated facilities and activities.
- The CNSC cooperates with other organizations and jurisdictions to foster consistent national and international standards with respect to human factors.

Glossary

For definitions of terms used in this document, see REGDOC-3.6, *Glossary of CNSC Terminology*, which includes terms and definitions used in the *Nuclear Safety and Control Act* and the regulations made under it, and in CNSC regulatory documents and other publications. REGDOC-3.6 is provided for reference and information.

CNSC Regulatory Document Series

Facilities and activities within the nuclear sector in Canada are regulated by the 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.

CNSC regulatory documents are classified under the following categories and series:

1.0 Regulated facilities and activities

Series 1.1 Reactor facilities
1.2 Class IB facilities
1.3 Uranium mines and mills
1.4 Class II facilities
1.5 Certification of prescribed equipment
1.6 Nuclear substances and radiation devices

2.0 Safety and control areas

Series 2.1 Management system
2.2 Human performance management
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3.0 Other regulatory areas

Series 3.1 Reporting requirements
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3.4 Commission proceedings
3.5 CNSC processes and practices
3.6 Glossary of CNSC terminology

Note: The regulatory document series may be adjusted periodically by the CNSC. Each regulatory document series listed above may contain multiple regulatory documents. Visit the CNSC's website for the latest list of regulatory documents.