N292.5-11
(reaffirmed 2021)

Guideline for the exemption or clearance from regulatory control of materials that contain, or potentially contain, nuclear substances

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Revision History

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Contents

Preface

This is the first edition of CSA N292.5, *Guideline for the exemption or clearance from regulatory control of materials that contain, or potentially contain, nuclear substances*. This Guideline was developed in response to a need for guidance on approaches to clearance of materials consistent with Canadian and international recommendations.

In 2008, the Canadian Nuclear Safety Commission (CNSC) revised and updated the Nuclear Substances and Radiation Devices Regulations (NSRDR) (SOR/2000-207). This revision included

- adoption of the activity concentration values recommended in the International Atomic Energy Agency (IAEA) Safety Guide No. RS-G-1.7, Application of the Concepts of Exclusion, Exemption and Clearance (2004), as unconditional clearance levels for bulk materials;
- adoption of the Exemption Quantities recommended in IAEA Safety Series No. 115, International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources (BSS) (1996), as the criteria for both exemption and clearance of moderate quantities of materials; and
- the requirements for the development and use of conditional clearance levels.

The generic criteria provided in the NSRDR only apply to materials where the radioactive nuclear substance(s) are uniformly distributed within the material. The clearance criteria for surface contaminated materials are addressed in individual licences issued by the CNSC.

This Guideline has been developed with the intent of promoting a standardized approach to applying clearance and exemption criteria by

- summarizing the regulatory requirements associated with the concepts of clearance and exemption;
- providing a summary of a structured approach that can be used to plan and execute surveys for demonstrating compliance with clearance and exemption criteria; and
- identifying where additional detailed guidance is available.

The methodology presented provides a basis for developing monitoring strategies and procedures that balance decision uncertainty with available resources in a manner that is satisfactory to the CNSC and the licensee.

The CSA N Series of Standards provides an interlinked set of requirements and guidance for the management of nuclear facilities and activities. CSA N286 provides overall direction to management to develop and implement sound management practices and controls while the other CSA standards and guidelines provide technical requirements and guidance that support the management system. This Guideline works in harmony with CSA N286 and might provide more specific direction for the requirements in that Standard.

This Guideline was prepared by the Subcommittee on Application of Unconditional Clearance of Materials from Nuclear Facilities, under the jurisdiction of the Technical Committee on Radioactive Waste Management and the Strategic Steering Committee on Nuclear Standards, and has been formally approved by the Technical Committee.

July 2011

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Guideline is stated in its Scope, it is important to note that it remains the responsibility of the users of the Guideline to judge its suitability for their particular purpose.*

3) *This publication was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*

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   c) *wording of the proposed change; and*
   d) *rationale for the change.*

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1 Scope

1.1
This Guideline provides direction for the application of exemption quantity and clearance level criteria for the release of materials containing, or potentially containing, radioactive nuclear substances, and the activities necessary to demonstrate compliance with these criteria. Specifically, this Guideline addresses clearance of materials that are regulated by the *Nuclear Safety and Control Act* and regulations made under that *Act*.

1.2
This Guideline is intended to provide direction on the application of the *Nuclear Substances and Radiation Devices Regulations* (NSRDR) and in complying with individual Licences that have additional provisions for the exemption or removal of materials from the requirement to hold a Canadian Nuclear Safety Commission (CNSC) licence, including

a) determining if a licence is required to possess a nuclear substance, or materials or equipment containing a nuclear substance (exemption); and
b) determining if materials can be removed from further regulatory controls (clearance).

Where there is a conflict between recommendations in this Guideline and the NSRDR or a CNSC licence, the NSRDR or site/facility licence takes precedence. See Annex A for an interpretation of the NSRDR requirements with respect to the concepts of clearance and exemption and the application of exemption quantities.

1.3
This Guideline presents strategies and methodologies that can be used to optimize the efforts and confidence level of the compliance process, including

a) determining appropriate exemption quantities, conditional clearance levels, or unconditional clearance levels for use in the clearance process;
b) providing sampling and analysis techniques for assessing the radiological status of materials identified for clearance; and
c) applying decision techniques for evaluating the results against exemption and clearance values approved by the CNSC to ensure that cleared materials comply with CNSC requirements.