

Characterization of radioactive waste and irradiated fuel



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Preface

This is the first edition of CSA N292.8, *Characterization of radioactive waste and irradiated fuel*.

This Standard works in concert with CSA N292.0, *General principles for the management of radioactive waste and irradiated fuel*, which specifies common requirements for the management of radioactive waste and irradiated fuel.

This Standard reflects the operating experience of the Canadian nuclear industry, best practices, and international experience and guidance.

The CSA N-series Standards provide an interlinked set of requirements 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 Group nuclear Standards provide technical requirements and guidance that support the management system. This Standard works in harmony with CSA N286 and does not duplicate the generic requirements of CSA N286; however, it might provide more specific direction for those requirements.

Users of this Standard are reminded that the design, manufacture, construction, commissioning, operation, and decommissioning of nuclear facilities in Canada are subject to the provisions of the *Nuclear Safety and Control Act* and its supporting Regulations.

This Standard was prepared by the Subcommittee on Characterization of Radioactive Waste and Irradiated Fuel, 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.

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 Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard 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 Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:*
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 - b) *provide an explanation of circumstances surrounding the actual field condition; and*
 - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.
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 - a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

CSA N292.8:21

Characterization of radioactive waste and irradiated fuel

1 Scope

1.1 General

This Standard pertains to the characterization of radioactive waste and irradiated fuel. This Standard

- a) specifies the overall requirements for establishing and implementing a waste characterization strategy, program, and plan;
- b) specifies methodologies for the sampling and characterization of radioactive waste and irradiated fuel;
- c) provides guidance for the timing of waste characterization planning and execution;
- d) provides guidance on waste characterization during nuclear decommissioning and site remediation; and
- e) provides guidance for reporting of waste characterization results.

Note: *In this Standard, both the terms “waste” and “radioactive waste” are used to refer to “radioactive waste and irradiated fuel”.*

1.2 Steps in the management of waste

This Standard applies to waste characterization during all steps in the management of radioactive waste and irradiated fuel, including

- a) generation;
- b) handling;
- c) processing;
- d) transport;
- e) storage; and
- f) disposal.

Note: *The objectives of waste characterization could be different for the various steps in the management of waste, and so the waste characterization data required could also vary to support these objectives.*

1.3 Waste container

This Standard provides guidance on

- a) the characterization of stored waste (e.g., contained within waste containers), including the interactions between the waste and waste containers; and
- b) the characterization of waste not contained in a waste container, such as waste from site remediation and in-situ decommissioning.

1.4 Exclusions

This Standard excludes characterization of nonradioactive waste, naturally occurring radioactive material (NORM) and technologically enhanced, naturally occurring radioactive material (TENORM), and uranium mine and mill tailings.

Notes:

- 1) *Nonradioactive waste refers to that which is cleared or exempt from nuclear regulatory control. See CSA N292.5 for guidance on the requirements for exemption and clearance.*