CSA Group

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(reaffirmed 2018)

Interim dry storage of irradiated fuel

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Contents

Preface

This is the third edition of CSA N292.2, *Interim dry storage of irradiated fuel.* It supersedes the previous editions published in 2007 and 1996.

This Standard is part of a series of Standards on radioactive waste management. It provides life-cycle requirements for the interim dry storage of irradiated fuel and covers site selection, design, quality assurance, commissioning, operation, safety, and planning for decommissioning.

This edition has been updated to reflect current industry practice, regulatory changes, and new technologies. Major changes to this edition include

a) updated reference publications;
b) consolidation and reorganization of the general requirements;
c) clarifications on life-cycle phases and aging management;
d) increased emphasis on safety and security;
e) broader management systems; and
f) the removal of requirements related to off-site transportation to centralized storage.

Users of this Standard are reminded that the site selection, design, manufacture, construction, installation, commissioning, operation, and decommissioning of nuclear facilities in Canada are subject to the *Nuclear Safety and Control Act* and its Regulations. The Canadian Nuclear Safety Commission might impose additional requirements to those specified in this Standard.

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 may provide more specific direction for those requirements.

This Standard was prepared by the Subcommittee on Interim Dry Storage of 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:*

a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
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.

5) *This Standard is subject to periodic review, and suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to* ***inquiries@csagroup.org*** *and include "Proposal for change" in the subject line:*

a) *Standard designation (number);*
b) *relevant clause, table, and/or figure number;*
c) *wording of the proposed change; and*
d) *rationale for the change.*

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Interim dry storage of irradiated fuel

1 Scope

1.1

This Standard applies to interim dry storage systems for irradiated fuel including damaged or defective fuel.

Note: *For damaged or defective fuel, there can be additional processing and packaging requirements for interim dry storage that are not detailed in this Standard.*

1.2

This Standard specifies requirements for the site selection, design, construction, commissioning, operation, and planning for decommissioning of dry storage systems. Dry storage systems include facilities, structures, support services, and equipment required for

a) transferring irradiated fuel
   i) from wet storage to dry storage containers; and
   ii) to a dry storage facility;
b) processing;
c) storage of irradiated fuel;
d) monitoring;
e) retrieval of irradiated fuel from dry storage; and
f) decommissioning planning.

1.3

This Standard specifies safety and security requirements for dry storage systems.

1.4

This Standard specifies requirements for management systems, including those for quality assurance, environmental management, ageing management, and decommissioning planning.

1.5

This Standard does not specify requirements for off-site transportation to centralized storage and/or disposal including the handling, packaging, or transfer of irradiated fuel.

1.6

In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; "may" is used to express an option or that which is permissible within the limits of the standard; and "can" is used to express possibility or capability.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.