

**Commentary for CSA N285.6-17, Material
Standards for reactor components for
CANDU nuclear power plants**



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Preface

This is the first edition of CSA N285.6.0.1, *Commentary for CSA N285.6-17, Material Standards for reactor components for CANDU nuclear power plants*.

The discussion provided in this Commentary is directed towards the requirements in the CSA N285.6-17 Series, and does not address the amendments released since 2017. This Commentary does not address CSA N285.0, *General requirements for pressure-retaining systems and components in CANDU nuclear power plants*. This Commentary does not provide formal interpretations of the CSA N285.6 Series and should be viewed only as an informative annotation of portions of CSA N285.6. It has been written in informative (non-mandatory) language and is not intended to be adopted by users of CSA N285.6 or regulatory authorities as additional requirements. Significant changes between editions of CSA N285.6 are outlined, along with rationale for the changes, where needed.

This Commentary responds to questions and comments raised by those who have participated in developing and implementing CSA N285.6. It provides a context and explanation for the structure and content of CSA N285.6, and outlines the governing principles and requirements. The Commentary does not cover the entire content of every clause of CSA N285.6.

The intent is to update this Commentary after the publication of each new edition of CSA N285.6 so as to incorporate information associated with amendments to published editions and new editions, and to expand the Commentary as additional needs are identified.

This Commentary was prepared by CSA N285A Task Force C on Materials, under the jurisdiction of the Technical Committee on CANDU Nuclear Power Plant Pressure-Retaining Systems and Components and the Nuclear 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 Commentary is stated in its Scope, it is important to note that it remains the responsibility of the users of the Commentary to judge its suitability for their particular purpose.*
- 3) *This Commentary 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) *This Commentary is subject to review within five years from the date of publication. 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.*

CSA N285.6.0.1:22

Commentary for CSA N285.6-17, Material Standards for reactor components for CANDU nuclear power plants

1 Scope

1.1

The purpose of this Commentary is to provide background information for specific clauses and requirements in the CSA N285.6 Series. This background information can help the user to clarify the context of the CSA N285.6 Series requirements. Also, this Commentary refers to sources of material that were used during the formulation of some of the requirements in the CSA N285.6 Series.

This Commentary focuses on the CSA N285.6 Series and is organized as follows:

- a) the original intent of the CSA N285.6 Series;
- b) the rationale for requirements; and
- c) the evolution of the CSA N285.6 Series through significant changes in various editions.

This Commentary addresses requirements relating to the manufacture and properties of materials for reactor components for CANDU nuclear power plants. It does not address requirements for the design and construction of pressure-retaining systems and components that are covered in CSA N285.0. Standards that relate to periodic inspection of pressure-retaining components are not addressed. Also, the requirements of other interfacing Standards and ASME *Boiler and Pressure Vessel and Piping Code (BPVC)*, Section III, Division 1 are not addressed in this Commentary.

The discussion provided in this Commentary is directed towards the requirements of the 2017 edition of CSA N285.6 Series and does not address the amendments released since 2017.

Although this Commentary can be read by itself, a better understanding of the Commentary will be obtained if a copy of the 2017 edition of the CSA N285.6 Series is available for reference. Many of the requirements in the CSA N285.6 Series are described in this Commentary. However, the Standards must always govern since they provide the formal requirements.

Note: ASME has published a companion guide to the ASME BPVC, which provides the criteria and a commentary on selected aspects of ASME BPVC.

Where this Commentary might not align with ASME, the differences are only applicable to materials covered and governed by the CSA N285.6 Series.

1.2 Scope of the N285.6 Series

The N285.6 Series is a set of individual standards numbered N285.6.x, each with their own specific scope. There is no overall identified scope for the N285.6 series. The preface of N285.0-17/ N285.6 Series-17 indicates that as of 2008 the N285.6 series is co-published with the N285.0 Standard, and this may sometimes be misinterpreted that they share the same scope. Whereas N285.0 is expressly concerned with the requirements for pressure retaining systems and components (the pressure boundary aspects) of the CANDU plant, the scope of the N285.6 Series is broader,