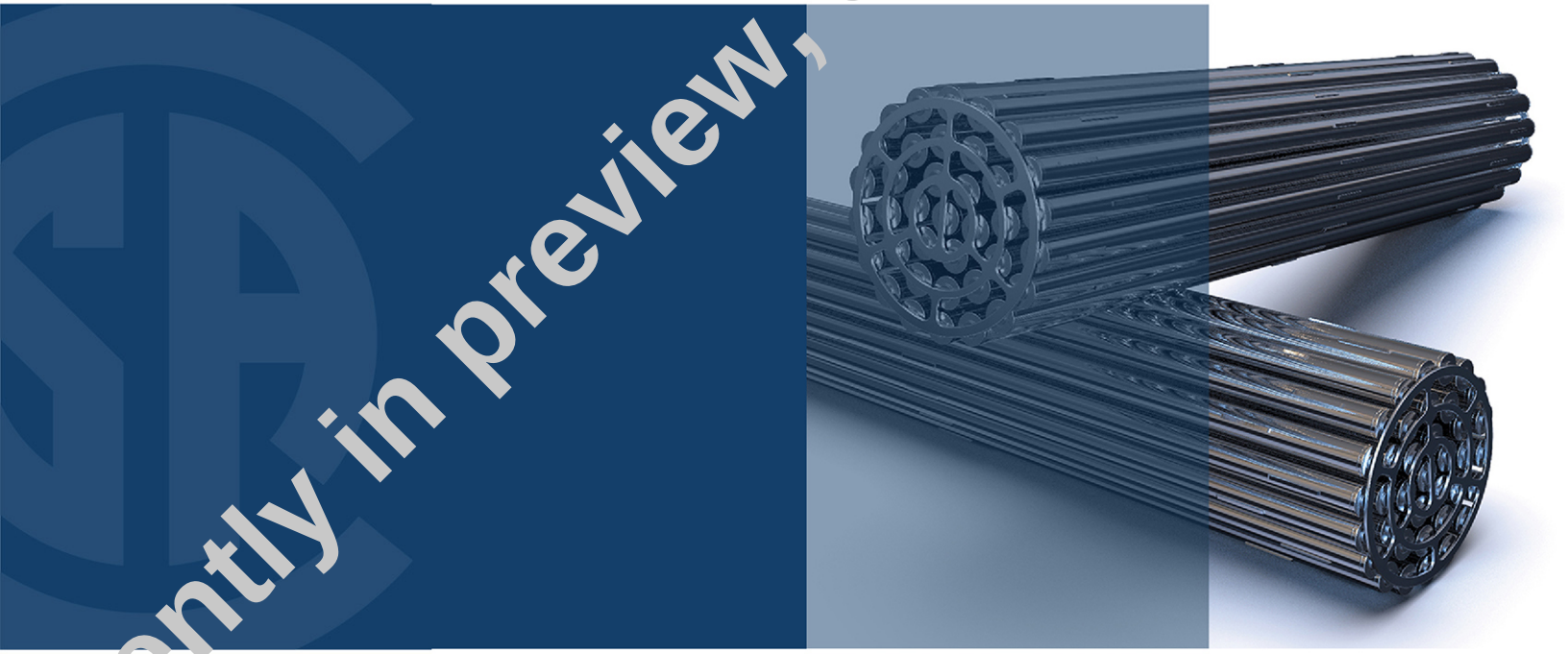
CSA N285.4:23

Periodic inspection of CANDU nuclear power plant components



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CSA N285.4:23
November 2023

Title: *Periodic inspection of CANDU nuclear power plant components*

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CSA N285.4:23

Periodic inspection of CANDU nuclear power plant components

Published in November 2023 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

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ICS 27.120.20
ISBN 978-1-4883-4944-7

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Preface

This is the eighth edition of CSA N285.4, *Periodic inspection of CANDU nuclear power plant components*. It supersedes the previous editions published in 2019, 2014, 2009, 2005, 1994, 1983, and 1978. It is one of the CSA N285 series of Standards on CANDU® nuclear power plant components.

Note: *CANDU® (CANada Deuterium Uranium) is a registered trademark of Atomic Energy of Canada Ltd., used under exclusive licence by Candu Energy Inc., a member of the SNC-Lavalin Group.*

This Standard provides uniform rules for the periodic inspection of pressure-retaining systems and components in CANDU nuclear power plants. It has been revised and updated to account for new knowledge and experience gained from CANDU research and operations, advances in technology, and changes to the regulatory framework in Canada.

The following are the major changes to this edition:

a) updates to requirements for fuel channel dimensional examination calibration specimens (Clause 12.4.1) to better align with inspection qualification requirements;
b) updates to Clause 13 feeder inspection requirements based on operating experience;
c) updates to Clause 14 steam generator inspection requirements based on operating experience;
d) updates to Clause 12.5 to include fuelling machine loads in spacer assessments;
e) updates to Figure 3 to establish the lower recording threshold for inaugural inspections consistent with prior editions of CSA N285.4;
f) modifications to Clause 12.5.4.1.3 to a permit additional method(s) for cyclic testing of annulus spacer material;
g) updates to pressure tube periodic inspection sampling requirements (Clauses 12.2.2.4 and 12.3.2), including number of repeat and new inspections;
h) modification to the requirement that inspections be post-hydrostatic test (removal of former Clause 6.1.4, Confirmatory inspection); and
i) updates to Clause 12.4.2.1 on provisions hydrogen equivalent sampling locations in material surveillance.

The CSA N-Series of Standards provides 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 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.

Users of this Standard are cautioned that, due to restructuring, a clause in this edition might not be directly comparable to the clause with the corresponding number in the previous edition of this Standard. Users are also reminded that the design, manufacture, construction, commissioning, operation, examination, maintenance, and decommissioning of nuclear facilities in Canada are subject to the provisions of the *Nuclear Safety and Control Act* and regulations, as well as other regulatory documents of the Canadian Nuclear Safety Commission (CNSC). The CNSC might impose additional requirements to those specified in this Standard.

In order to facilitate adoption by the authority having jurisdiction, this Standard includes some regulatory provisions.

