CANADIAN STANDARDS ASSOCIATION

N286.7.1-09

Guideline for the application of N286.7-99, *Quality assurance of analytical, scientific, and design computer programs for nuclear power plants*

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Preface

This is the first edition of CSA N286.7.1, *Guideline for the application of N286.7-99,* Quality assurance of analytical, scientific, and design computer programs for nuclear power plants.

This Guideline is intended to provide guidance on the application of CSA N286.7, based on industry experience.

This Guideline is intended to assist owner organizations and participants in the preparation and implementation of software quality assurance processes in compliance with CSA N286.7. CSA N286.7 contains requirements that need interpretation or expansion in order to be implemented. This Guideline provides guidance on graded implementation and draws from software quality assurance/management processes currently in use by owner and participant organizations.

This Guideline is based on the AECL document, *Guideline for the Application of CSA N286.7-99*, and has been provided to CSA as a supporting document for CSA N286.7.

November 2009

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 Special Publication is stated in its Scope, it is important to note that it remains the responsibility of the users of the Special Publication to judge its suitability for their particular purpose.*

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(b) provide an explanation of circumstances surrounding the actual field condition; and

(c) be phrased where possible to permit a specific "yes" or "no" answer.

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N286.7.1-09
Guideline for the application of N286.7-99, Quality assurance of analytical, scientific, and design computer programs for nuclear power plants

1 Scope

1.1
This Guideline is intended to assist owner organizations and participants in the preparation and implementation of software quality assurance processes in compliance with CSA N286.7 and related requirements from CSA N286.

1.2
This Guideline is intended for those persons responsible for developing software governance and quality assurance programs and procedures.

1.3
This Guideline is intended to assist practitioners within owner and participant organizations in understanding the basis of software quality assurance processes implemented in those organizations.

1.4
This Guideline provides guidance on the development and implementation of software quality engineering procedures that reflect the current maintenance focus of software development within owner and participant organizations.

1.5
This Guideline provides guidance on the development and use of scripts, processors, and couplers, which are not included in CSA N286.7. It also provides guidance on software processes related to direct coupling of codes that were previously run in series as separate entities.

1.6
This Guideline does not apply to computer programs that are
(a) used to control plant safety systems and operational control systems;
(b) commercially available database management and spreadsheet programs;
(c) commercially available graphics and computer-assisted drafting (CAD) programs;
(d) commercially available compilers, interpreters, and computer-operating systems; and
(e) commercially available mathematical libraries.

Note: *Items (b) and (c) include "programmed applications", which are within the scope of CSA N286.7. A graded approach to quality activities and documentation similar to that specified for scripts in Clause 15 should be used.*