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N288.9-18

Guideline for design of fish impingement and entrainment programs at nuclear facilities



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Preface

This is the first edition of CSA N288.9, *Guideline for design of fish impingement and entrainment programs at nuclear facilities*.

The purpose of this Guideline is to provide guidance for the design and implementation of fish impingement and entrainment (I&E) monitoring and assessment programs in accordance with best practices in Canada and internationally. This Guideline will assist facilities in assessing effects of water use on fisheries.

This Guideline is part of the CSA N288 Suite of standards on Environmental Management and provides more detailed guidance on the I&E monitoring requirements set out in the Suite.

The CSA N-Series Standards provide an interlinked set of requirements and guidance for the management of nuclear facilities and activities. The CSA N286 Standard provides overall direction to management to develop and implement sound management practices and controls, while the other CSA nuclear Standards provide specific technical requirements and guidance that support the management system. This Guideline works in harmony with the CSA N286 Suite and does not duplicate the generic requirements and guidance of CSA N286; however, it might provide more specific direction for meeting those requirements and guidance.

Users of this Guideline are reminded that additional and site-specific requirements and guidance might be specified by federal, provincial/territorial, or municipal authorities. This Guideline should not be considered a replacement for the requirements contained in any

- a) applicable federal/territorial, or provincial statute; or
- b) regulation, licence, or permit issued pursuant to an applicable statute.

This Guideline was prepared by the Subcommittee on Guideline for Design of Fish Impingement and Entrainment Programs at Nuclear Facilities under the jurisdiction of the Technical Committee on Environmental Management for Nuclear Facilities 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.*
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N288.9-18

Guideline for design of fish impingement and entrainment programs at nuclear facilities

0 Introduction

0.1 Objective

The objective of this Guideline is to provide guidance for the design and implementation of fish impingement and entrainment (I&E) monitoring and assessment programs at Class I nuclear facilities.

0.2 Relationship to environmental monitoring program

0.2.1 Goal of the environmental monitoring program

The environmental monitoring program (EMP) collects data to assess

- a) the exposure of receptors to hazardous substances, nuclear substances, or physical stressors; and
- b) potential effects on human health, safety, and the environment.

Note: Further information on environmental monitoring is provided in CSA N288.4.

0.2.2 Existence of an EMP

This Guideline is based on the assumption that an EMP is in place or is being developed as part of a facility's environmental protection program.

Note: The EMP is typically developed through the use of CSA N288.4; however, this Guideline is not dependent on the use of CSA N288.4.

0.2.3 Influence of the EMP on the development of the I&E monitoring and assessment programs

The EMP might provide the context for the objectives and goals of the I&E monitoring and assessment programs.

Notes:

- 1) The EMP might provide key details of use to the I&E program such as the sampling frequency and sampling program duration.
- 2) The EMP might have standard operating procedures (SOPs) for sampling applicable to I&E. These procedures ideally are referenced during the implementation of the I&E monitoring and assessment programs described in this Guideline, and any deviations are ideally documented.

0.3 Relationship to environmental risk assessments

0.3.1 Goal of an environmental risk assessment

An environmental risk assessment (ERA) of a nuclear facility is a systematic process used to identify, quantify, and characterize the risk posed by contaminants and physical stressors in the environment on biological receptors (human and non-human), including the magnitude and extent of the potential