INTERNATIONAL STANDARD

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Management of radioactive waste from nuclear facilities —

Part 1: General principles, objectives and practical approaches

Gestion des déchets radioactifs des installations nucléaires —
Partie 1: Principes généraux, objectifs et approches pratiques

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies, and radiological protection*, Subcommittee SC 5, *Nuclear installations, processes and technologies*.

A list of all parts in the ISO 24389 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The IAEA outlines a framework for the long-term management of radioactive waste, including waste from operational activities and waste from decommissioning activities. This framework sets out the objectives, criteria and requirements for the protection of human health and the environment that apply to the siting, design, construction, commissioning, operation and shutdown of facilities for the predisposal management of radioactive waste, and the requirements that should be met to ensure the safety of such facilities and activities.

However, additional practical guidance is required to assist development of processes for the safe, secure, efficient, effective management of radioactive waste. This document has been developed to provide the guidance needed for consistent implementation of the framework provided by the IAEA, while also enabling member states to develop processes that meet their own applicable requirements. This includes considerations with regards to

— safety,

— waste prevention,

— security (non-proliferation),

— lifecycle management (e.g., waste minimization, repurposing or reuse, effectiveness, efficiency, acceptance criteria for disposal), and

— applicable requirements for waste certification.

The guidance provided in this document considers the need to demonstrate fitness for purpose of applied solutions and the requirement for continuous improvement. Long-term disposal requirements are not addressed in this document.

This series of standards provides guidance in the following areas:

ISO 24389-1: General principles, objectives and practical approaches

ISO 24389-2: Pre-disposal

ISO 24389-3: Disposal

ISO 24389-4: Governance

ISO 24389-5: Data quality

ISO 24389-6: Documentation

ISO 24389-7: Supporting systems

Management of radioactive waste from nuclear facilities —

Part 1:
General principles, objectives and practical approaches

1 Scope

This document is the first of a series of seven documents which outlines the general principles to manage the various type of radioactive waste, and provides guidance for the practical implementation of those principles.

The purpose of this document is to address the following:

a) principles, objectives and practical approaches for radioactive waste management;

b) outline of the structure of series from ISO 24389-1 through ISO 24389-7.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12749-3, *Nuclear energy, nuclear technologies, and radiological protection — Vocabulary — Part 3: Nuclear fuel cycle*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12749-3 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms

NOTE General terms are arranged alphabetically (English).

3.1.1
decommissioning
administrative and technical actions taken to allow the removal of some or all of the regulatory controls from a *nuclear facility* (3.1.3)

[SOURCE: IAEA. IAEA Safety Glossary, 2018 edition[1], modified — “nuclear” added.]

3.1.2
non-proliferation
prevention of the spread of nuclear weapons, fissionable material, and weapons-applicable nuclear technology and information