INTERNATIONAL STANDARD

ISO 10979

Second edition
2019-01

Identification of fuel assemblies for nuclear power reactors

Système d'identification des assemblages combustibles destinés aux réacteurs nucléaires

Reference number
ISO 10979:2019(E)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

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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).

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For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy*, Subcommittee SC 6, *Reactor technology*.

This second edition cancels and replaces the first edition (ISO 10979:1994), of which it constitutes a minor revision to update the references in Clause 2 and in the Bibliography.

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.

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Identification of fuel assemblies for nuclear power reactors

1 Scope

This document specifies requirements for the unique identification of fuel assemblies utilized in nuclear power plants. It was developed primarily for commercial light-water reactor fuel, but can be used for any reactor fuel contained in discrete fuel assemblies that can be identified with an identification code as specified by this document.

This document defines the characters and proposed sequence to be used in assigning identification to the fuel assemblies. The identification is intended to be borne by the fuel assembly throughout its lifetime.

This document aims at providing an organizing principle for fuel assembly identification systems in order to guarantee unequivocal identification at any time and any place in the world (see also IAEA Safety Guide No. GS-G-3.5).

Considering that existing standards for fuel assembly identification (such as ANSI/ANS-57.8-1995, DIN 25433, IAEA Safety Guide No. GS-G-3.5) ensure unequivocal identification in their respective fields of application, this document allows without restriction the further application of these standards. Moreover, it is intended that this document be used as a guideline for new definitions of identification systems.

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 3098-1, *Technical product documentation — Lettering — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 http://www.electropedia.org/

3.1
fuel assembly
component containing a fissile material and forming a unit in charging and discharging a reactor

3.2
lifetime
<fuel assembly> period of time starting at the time of assembling of the *fuel assembly* (3.1) in the fabricator's facility and ending when the assembly is destroyed as an entity

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