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Remote handling devices for radioactive materials —

Part 4: Power manipulators

Dispositifs de manipulation à distance pour matériaux radioactifs

Partie 4: Télémanipulateurs télécommandés



Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 17874-4 was prepared by Technical Committee ISO/TC 85, *Nuclear energy*, Subcommittee SC 2, *Radiation protection*.

ISO 17874 consists of the following parts, under the general title *Remote handling devices for radioactive materials*:

- *Part 1: General requirements*
- *Part 2: Mechanical master-slave manipulators*
- *Part 4: Power manipulators*
- *Part 5: Remote handling tongs*

A Part 3, *Electrical master-slave manipulators*, is under study.

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Introduction

This part of ISO 17874 deals with power manipulators used for nuclear applications. These manipulators consist mainly of multipurpose remote handling devices.

These devices replace hands and arms and even light hoists, depending on the model used, in areas inaccessible to personnel (mostly behind shielding walls).

Power manipulators were originally developed for hot cells designed for research and development in fuel elements for nuclear power reactors. They are now also in widespread use in other nuclear installations, such as plants for reprocessing of fuel elements, waste treatment stations, and decommissioning of nuclear facilities.

Alternative manipulators used in these fields and resulting in a wide variety of different designs are considered to be skill in an emergent phase or applied uniquely in special circumstances and are not addressed further in this current edition of this standard.

Power manipulators are sometimes modified or especially designed for non-nuclear applications. This part of ISO 17874 does not address the special requirements of any of these applications. Although designers may not be taken advantage of standardized features and components from the nuclear sector to achieve efficient and cost-effective designs for other purposes where appropriate.

This part of ISO 17874 is intended to provide assistance to designers of nuclear process and research plants, as well as manufacturers, users and licensing authorities.