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Nuclear facilities — Criteria for the design and the operation of containment and ventilation systems for nuclear reactors

Installations nucléaires — Critères pour la conception et l'exploitation des systèmes de confinement et de ventilation des réacteurs nucléaires

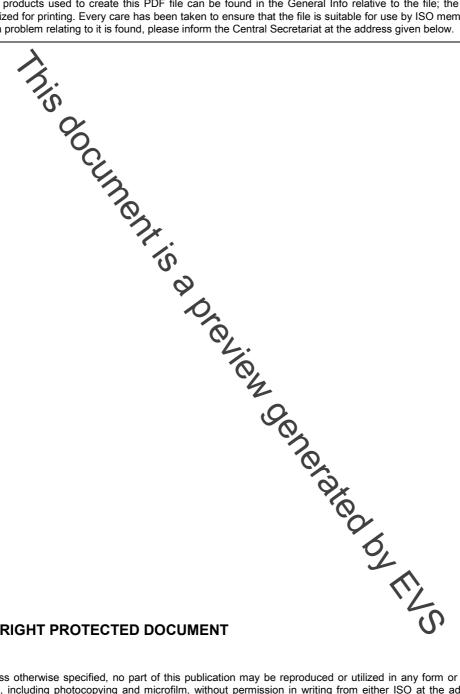


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Foreword

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.

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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.

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Introduction

Containment and ventilation systems of nuclear power plants (NPPs) and research reactors ensure the security of such installations in order to protect the workers, the public and the environment from the dissemination of radioactive contamination originating from the operations of these installations.

This International Standard applies specifically to systems of confinement and ventilation systems for the confinement areas of reactors and their specialized buildings (such as command centres and particular areas for air purging and conditioning). This International Standard is complementary to ISO 17873, which applies mainly to nuclear fuel cycle installations (e.g. reprocessing plants, nuclear fuel fabrication and examination laboratories, plutonium handling facilities) and to radioactive waste storage, research facilities and auxiliary buildings of nuclear reactors. The plation declined of the platic declined o

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Nuclear facilities — Criteria for the design and the operation of containment and ventilation systems for nuclear reactors

1 Scope

This International Standard specifies the applicable requirements related to the design and the operation of containment and ventilation systems of nuclear power plants and research reactors, taking into account the following.

For nuclear power plants, this International Standard addresses only reactors that have a secondary confinement system based International Atomic Energy Agency (IAEA) recommendations (see Reference [10]).

For research reactors, this International Standard applies specifically to reactors for which accidental situations can challenge the integrity of eak-tightness of the containment barrier, i.e. in which a high-pressure or high-temperature transient can occur and for which the isolation of the containment building and the shut-off of the associated ventilation systems of the containment building is required.

For research reactors in which the increase of pressure or temperature during accidental situations will not damage the ventilation systems, the requirements applicable for the design and the use of ventilation systems are given in ISO 17873. However, the requirements of this International Standard can also be applied.

2 Normative references

The following referenced documents are indispensable of the application 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 10648-2, Containment enclosures — Part 2: Classification according to leak tightness and associated checking methods

ISO 17873, Nuclear facilities — Criteria for the design and operation of ventilation systems for nuclear installations other than nuclear reactors

ICRP 103, The 2007 Recommendations of the International Commission on Padiological Protection, ICRP Publication 103, Annals of the ICRP, 37 (2-4), Elsevier

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