

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

**Nuclear Criticality Safety — Emergency
Preparedness and Response**

(ICS 27.120.30)

Nuclear Energy for Peaceful Applications
Sectional Committee, CHD 30

Last Date for Comments: 04 April 2025

NATIONAL FOREWORD

(Formal clauses to be added later)

Criticality safety programmes at facilities that might use significant quantities and concentrations of fissile material are primarily directed at avoiding nuclear criticality accidents. However, the possibility of such accidents exists and the consequences can be life-threatening. For facilities that are judged to have a credible criticality accident risk, this necessitates advance planning, practice in planned emergency responses, and verification of readiness. Two distinct phases are identified:

- the emergency preparedness phase, which needs to be enforced continuously, and
- the emergency response phase, which needs only to be activated when it is indicated that a criticality accident could be developing, could be occurring or could have occurred.

This standard provides criteria for emergency preparedness and response to minimize consequences due to a nuclear criticality accident.

This standard applies to a site with one or more facilities which might contain significant quantities and concentrations of fissile material. The extent to which this standard needs to be applied depends on the overall criticality risk presented by the facilities at the site.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions and terminologies are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, the reference appears to certain International Standards for which Indian Standards do not exist. So, the technical committee has reviewed the provisions of the following International Standards/ documents referred in this adopted standard and has decided that they are acceptable for use in conjunction with this Standard:

<i>International Standards</i>	<i>Title</i>

ISO 921	Nuclear energy — Vocabulary
ISO 1709	Nuclear energy — Fissile materials — Principles of criticality safety in storing, handling and processing

In this adopted standard, reference appears to certain International Standards/documents where the standard atmospheric conditions to be observed are stipulated which are not applicable to tropical/subtropical countries. The applicable standard atmospheric conditions for Indian conditions are (27 ± 2) °C and (65 ± 5) percent relative humidity and shall be observed while using this standard.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revision*)'.

FOR COMPLETE TEXT OF THE DOCUMENT, KINDLY REFER ISO 11320: 2011

Note: The technical content of the document has not been enclosed as these are identical with the corresponding ISO Standard. For obtaining the copy of the complete ISO Standard, please contact:

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