

For Comments Only

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

भू-संचलन मशीनरी — कार्यात्मक सुरक्षा —
भाग 4 नियंत्रण पद्धति के सुरक्षा संबंधी सॉफ्टवेयर
एवं डेटा ट्रांसमिशन के डिजाइन एवं मूल्यांकन

(ISO 19014-4 का अधिग्रहण)

Draft Indian Standard

**EARTH-MOVING MACHINERY — FUNCTIONAL SAFETY —
PART 4 DESIGN AND EVALUATION OF SOFTWARE AND DATA TRANSMISSION
FOR SAFETY-RELATED PARTS OF THE CONTROL SYSTEM**

(*Adoption of ISO 19014-4*)

ICS 53.100

Earth Moving Equipment and Material Handling
Sectional Committee, MED 07

Last date for receipt of comments is
15 October 2023

NATIONAL FOREWORD

(Formal Clause to be added later)

The text of ISO standard is proposed for publication as an Indian Standard without deviations. Certain terminologies and conventions 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, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standard, which are to be substituted in their respective place, are listed below along with their degree of equivalence for the editions indicated:

| <i>International Standard</i> | <i>Corresponding Indian Standard</i> | <i>Degree of Equivalence</i> |
|---|---|----------------------------------|
| ISO 6750-1 : 2019 Earth-moving machinery — Operator's manual — Part 1: Contents and format | IS/ISO 6750-1 : 2019 Earth-Moving Machinery - Operator's manual Part 1 Contents and Format (first revision) | Identical under single numbering |
| ISO 12100:2010 Safety of machinery — General principles for design — Risk assessment and risk reduction | IS 16819 : 2018 / ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction | Identical under dual numbering |
| ISO 13849-1 : 2015 Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design | IS 16810 (Part 1) : 2018 / ISO 13849-1:2015 Safety of machinery - Safety related parts of control systems: Part 1 general principles for design | Identical under dual numbering |
| ISO 19014-1 : 2018 Earth-moving machinery — Functional safety — Part 1: Methodology to determine safety-related parts of the control system and performance requirements | IS/ISO 19014-1 : 2018 Earth-Moving Machinery - Functional Safety Part 1 Methodology to Determine Safety-related Parts of the Control System and Performance Requirements | Identical under single numbering |

The technical committee has reviewed the provision of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

| <i>International Standard</i> | <i>Title</i> |
|-------------------------------|---|
| ISO 19014-2 : 2022 | Earth-moving machinery — Functional safety — Part 2: Design and evaluation of hardware and architecture requirements for safety-related parts of the control system |

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

NOTE — The technical content of the document has not been enclosed as these are identical with the corresponding ISO standard. For details, please refer the corresponding ISO 19014-4 : 2020 or kindly contact:

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