SIST

SLOVENSKI STANDARD
oSIST prEN ISO 19650-6:2024

01-februar-2024

Organizacija in digitalizacija informacij v gradbeništvu - Upravljanje informacij z BIM - 6. del: Zdravstvene in varnostne informacije (ISO/DIS 19650-6:2023)

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 6: Health and safety information (ISO/DIS 19650-6:2023)

Organisation und Digitalisierung von Informationen zu Bauwerken und Ingenieurleistungen, einschließlich Bauwerksinformationsmodellierung (BIM) - Informationsmanagement mit BIM - Teil 6: Gesundheit und Sicherheit (ISO/DIS 19650-6:2023)

Organisation et numérisation des informations relatives aux bâtiments et ouvrages de génie civil, y compris modélisation des informations de la construction (BIM) - Gestion de l’information par la modélisation des informations de la construction - Partie 6: Informations relatives à la santé et à la sécurité (ISO/DIS 19650-6:2023)

Ta slovenski standard je istoveten z: **prEN ISO 19650-6**

ICS:

35.240.67	Uporabniške rešitve IT v gradbeništvu	IT applications in building and construction industry
91.010.01	Gradbeništvo na splošno	Construction industry in general
93.010	Nizke gradnje na splošno	Civil engineering in general

oSIST prEN ISO 19650-6:2024 **en,fr,de**

DRAFT INTERNATIONAL STANDARD

ISO/DIS 19650-6

ISO/TC **59**/SC **13**

Secretariat: **SN**

Voting begins on:
2023-11-28

Voting terminates on:
2024-02-20

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling —

Part 6:
Health and safety information

ICS: 91.010.01; 93.010; 35.240.67

This document is circulated as received from the committee secretariat.

ISO/CEN PARALLEL PROCESSING

Reference number
ISO/DIS 19650-6:2023(E)

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

Published in Switzerland

Contents

Page

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, and information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works,* Subcommittee SC 13, *Organization and digitalization of information about buildings and civil engineering works, including building information modelling (BIM)*.

A list of all parts in the ISO 19650 series can be found on the ISO website.

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 atwww.iso.org/members.html.

Introduction

At the heart of this standard is the requirement to identify, record, use and share information on health and safety risks which may result in harm to any person involved in the asset throughout its life. Information captured can include any site wide health and safety risks associated with location, previous use, or the sites physical characteristics.

Health and safety issues such as health and safety risk and hazard allocation, registration and mitigation can be performed by all parties. They represent a specific opportunity for making improvements to asset management using ISO 19650 but also a challenge to the ISO 19650 working, where health and safety risk information is a collective responsibility rather than a deliverable by an individual appointed party.

The exchange and use of health and safety information is intended to support:

— representation of the nature and characteristics of the works being undertaken, the site and the asset;

— representation of health and safety hazards, risks and associated factors; and

— the generalization, dissemination and re-use of health and safety knowledge and experience.

Health and safety risk information becomes meaningful when interpreted in the light of the history of events and accidents associated such risk, and in the context of the immediate and underlying circumstances in which the health and safety risk is identified. The schema provided within this document includes a structure for recording contextual information and incidents. One important use of incident information is to link incidents to design factors, so that designers can learn about how their designed assets perform in use.

Organizational information requirements developed by the appointing party can reflect the required integration of health and safety as well as modelling and sharing of information across the supply chain. This contextual information can include information to identify characteristics of location, product, systems, building element or plant or equipment, and scope of work activity to be carried out, which are associated as sources of the health and safety risk. Health and safety risks can be linked where appropriate to risk treatments which prioritize the production of inherently safer outcomes during the delivery and operational phases of an asset's life cycle.

Prior to construction, health and safety risks can be progressively defined and linked to the context in which the harm may occur. During the construction stage the same health and safety risk information can be used to identify, record use and share health and safety risk information to provide barriers and controls to prevent any residual health and safety risk accepted from the design stage, resulting in injury or harm to any person affected by the work.

During handover and close out of the project the same health and safety risk information can be used to ensure that the project information model is used to update the asset information model, and the health and safety risk information is handed over to those who will be responsible to manage and assess health and safety risks during the operational phase of the asset.

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling —

Part 6: **Health and safety information**

1 Scope

This document outlines the concepts and principles to ensure that health and safety information is classified, shared and delivered collaboratively, ensuring the economic, environmental and social benefits are secured.

This document;

a) specifies requirements for the collaborative sharing of structured health and safety information throughout the project and asset life cycles.

b) supports the digitization of structured health and safety information in the project and asset life cycles progressively from the outset.

c) provides specification on how health and safety information is shared for use throughout the project and asset life cycle. Whilst all health and safety risk information can be included within an information model; this document requires the contextualization and filtering of hazards and risks to prioritize the health and safety risks and aspects that are safety critical.

d) sets out a health and safety risk information cycle framework for the identification, use, sharing and generalization of health and safety information through information management processes including BIM and applications to provide a safer and healthier environment around the assets.

This document is applicable to individuals and organizations that contribute to and influence the procurement, design, construction, use (including maintenance) and end of life of an asset.

It is intended to address information management at a stage of maturity described as "BIM according to the ISO 19650 series". However, the principles and requirements of this document can be applied equally to delivery or in-use phases not using BIM.

It specifies how to use health and safety information to:

— provide a safer and healthier environment for end users;

— mitigate the inherent hazards and health and safety risks across the asset life cycle;

— result in improved health and safety performance, fewer incidents and associated impacts;

— provide for clearer, more assured and relevant health and safety information to the 'right-people' at the 'right time';

— increase construction and operational value.

This document does not change the legal obligations on parties around health and safety risk management.

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.

EN ISO 19650-1:2018, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 1: Concepts and principles (ISO 19650-1:2018)*

EN ISO 19650-2, *2018:2, Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 2: Delivery phase of the assets (ISO 19650-2:2018)*

EN ISO 19650-3:2020, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 3: Operational phase of the assets (ISO 19650-3:2020)*

EN ISO 19650-5:2020, *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 5: Security-minded approach to information management (ISO 19650-5:2020)*

ISO 31000:2018, *Risk management — Guidelines*

ISO 41001:2018, *Facility management — Management systems — Requirements with guidance for use*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19650-1, ISO 19650-2, ISO 19650-3, ISO 19650-4, ISO 19650-5 and ISO 31000 and ISO 45001 and the following 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/obpIEC

— Electropedia: available at https://www.electropedia.org/

3.1
health and safety information
information relating to the health and safety of asset users.

Note 1 to entry: Including but not limited to health and safety risk

EXAMPLE *Example users include designers, constructors, and occupants.*

3.2
risk treatment
process to modify risk

Note 1 to entry: eliminating, reducing, information and controlling are ways a risk can be modified

Note 2 to entry: A risk treatment can be that the risk is accepted and no action is required

[SOURCE: ISO Guide 73:2009, 3.8.1]

3.3
generalization
act of removing or modifying detail to make information suitable for wider publication and re-use

3.3.2
hazard
source of potential harm

[SOURCE: ISO Guide 73:2009, 3.5.1.4, modified – Note to entry removed.]

3.3.6
level of risk
magnitude of risk or combinations of risks, expressed in terms of the combination of consequences and their likelihood

[SOURCE: ISO Guide 73:2009, 3.6.1.8]

Note 1 to entry: risk priority is a synonym

4 Health and safety information

4.1 Objective

To deliver effective health and safety outcomes, health and safety information shall be documented, stored, shared and presented as outlined in the subclauses below.

4.2 Health and safety information

The appointing party shall adopt the common method for structuring information (defined in 4.3. to 4.5) for health and safety information to support the risk management cycle including , identification, sharing, use and generalization of information and supporting evidence relating to:

1) health and safety risk management;

2) hazard and incident management; and

3) optionally, the recording of previous and existing states of the health and safety risk information which may affect works on the current project or asset;

The appointing party in determining the expectations in clauses 4.3 to 4.5 shall consider the legal, regulatory, supervisory and management concerns.

4.2.1 Types of health and safety risk

The scope of the health and safety risk management shall include sufficient information to manage collaboratively the hazards concerning:

1) health, safety and well-being;

2) optionally, environmental; and

3) optionally, social/community interest.

Note Other types of risk can be managed using this methods without collaborative sharing.

4.2.2 Context

The context within which health and safety risks are being managed shall be documented in terms of:

1) the site and surroundings, and any exceptional spatial zones or space-types or activities

2) the asset and any exceptional physical systems or product types