SLOVENSKI STANDARD
SIST EN IEC 62271-200:2021/oprA1:2023

01-december-2023

Visokonapetostne stikalne in krmilne naprave - 200. del: Stikalne in krmilne naprave v kovinskih ohišjih za naznačene izmenične napetosti nad 1 kV in do vključno 52 kV - Dopolnilo A1

Amendment 1 - High-voltage switchgear and controlgear - Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 200: Metallgekapselte Wechselstrom-Schaltanlagen für Bemessungsspannungen über 1 kV bis einschließlich 52 kV

Appareillage à haute tension - Partie 200: Appareillage sous enveloppe métallique pour courant alternatif de tensions assignées supérieures à 1 kv et inférieures ou égales à 52 kv

Ta slovenski standard je istoveten z: **EN IEC 62271-200:2021/prA1:2023**

ICS:

29.130.10	Visokonapetostne stikalne in krmilne naprave	High voltage switchgear and controlgear

SIST EN IEC 62271-200:2021/oprA1:2023 **en**

17C/903/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62271-200/AMD1 ED3**	
DATE OF CIRCULATION: **2023-10-06**	CLOSING DATE FOR VOTING: **2023-12-29**
SUPERSEDES DOCUMENTS: **17C/890/CD, 17C/900/CC**	

IEC SC 17C : ASSEMBLIES	
SECRETARIAT: Germany	SECRETARY: Mr Mark Kuschel
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 17,SC 17A,TC 18	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☒ ENVIRONMENT ☒ QUALITY ASSURANCE ☒ SAFETY	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any relevant "In Some Countries" clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

Amendment 1 - High-voltage switchgear and controlgear - Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV

PROPOSED STABILITY DATE: 2031

NOTE FROM TC/SC OFFICERS:

FOREWORD

This amendment has been prepared by technical committee 17: HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR.

The text of this amendment is based on the following documents:

FDIS	Report on voting
17/XX/FDIS	17X/XX/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

Add at the end:

Gas-filled medium-voltage designs use to have design pressures below 500 kPa, as mentioned for example in the introduction of EN 50187.

2 Normative references

Delete the normative reference IEC 62271-203:2011.

Add the following normative reference:

ISO 4126-2, *Safety devices for protection against excessive pressure – Part 2: Bursting disc safety devices*

3 Terms and definitions

Replace term 3.6.101 and its definition by following one:

3.6.101 loss of service continuity category (LSC)

<of a functional unit> category defining the possibility to keep other high-voltage compartments and/or functional units energized when opening its connection compartment or any other of its high-voltage compartment(s) accessible in normal use, as stated in definitions 3.5.110 and 3.5.111, giving access to at least part of the high-voltage circuit contained within

Note 1 to entry: The LSC category describes the extent to which the assembly is intended to remain operational where access to a high-voltage compartment is provided. The extent to which it is considered necessary to open high-voltage compartments of an installation in service might be dependent on several aspects (refer to 9.101).

Note 2 to entry: The LSC category does not describe or relate to different levels of reliability of assemblies (refer to 9.101).

Note 3 to entry: In relation to providing access to high-voltage compartments and the associated service continuity, four categories are defined: LSC1, LSC2, LSC2A, LSC2B (refer to Annex D).

6 Design and construction

6.10 Pressure/level indication

Replace the sentence of 6.10 by following text:

Subclause 6.10 of IEC 62271-1:2017 is applicable with the following addition to 6.10.1 of IEC 62271-1:2017.

For gas-filled compartments where the minimum functional pressure exceeds 200 kPa (absolute pressure at 20 °C) an indication shall be provided when the absolute pressure at 20 °C has fallen below the minimum functional level (refer to 3.6.114).

NOTE 1 The indication might include monitoring of pressure (density).

Closed pressure systems with minimum functional pressure above 200 kPa (absolute pressure) shall have a defined alarm pressure (density) level.

NOTE 2 Alarm pressure (density) is defined in IEC 62271-1:2017, 3.6.5.3 and 3.6.5.4

An example of pressure coordination chart is shown in Figure E.1.

6.102.2 Covers and doors

Replace the indent b) by following one:

b) Covers and doors that give access to interlock-controlled accessible or procedure-based accessible compartments

These covers and doors shall be provided if there is a need to access the compartment for normal use as stated by the manufacturer. These covers and doors shall not require tools but may additionally require the manipulation of some fixing elements for their opening or removal and shall have the following features:

– interlock controlled accessible compartments shall be provided with interlocking devices so that opening of the compartment shall only be possible when the high-voltage parts contained in the compartment being made accessible are isolated and earthed, or are in the disconnected position with corresponding shutters closed;

– procedure-based accessible compartments shall be provided with provision for locking, e.g. padlocking. Suitable procedures should be put in place by the user to ensure that a procedure-based accessible compartment is opened only when the high-voltage parts contained in the compartment being made accessible are isolated and earthed, or in the disconnected position with corresponding shutters closed. Procedures may be dictated by legislation of the country of installation or by user safety documentation.

If interlock-controlled or procedure-based accessible compartments have covers that can be opened by tools, other than those that are interlocked or locked, proper procedures or specific warning labels should be applied.

6.103.1 General

Replace NOTE 1 by following text:

NOTE 1 Only interlock-controlled accessible compartments and procedure based accessible compartments are considered when defining the LSC category of a functional unit

Replace the fifth paragraph after NOTE 1 by following text:

The LSC category can only be assigned to functional units that include a connection compartment. This implies that e.g. a bus-sectionaliser or bus-coupler functional unit will have no LSC category, refer to Figure 8 and Figure 9.

6.103.2.1 General

Replace "normally filled" by "filled" at the 2nd paragraph 3rd line as follows:

Gas-filled compartments, when permanently pressurised in service, are subjected to particular conditions of service which distinguish them from compressed air receivers and similar storage vessels. These conditions are such that gas-filled compartments are filled with a gas that is stable and non-corrosive in the conditions that prevail inside the compartment. Measures to maintain the gas in this condition with only small fluctuations in pressure are fundamental to the operation of the assembly and the compartments will not be subjected to internal corrosion. Therefore, when these measures are taken, there is no need to make allowances for the two factors (fluctuations in pressure and internal corrosion) in determining the design of the compartments.

Add the following NOTE 1 after 2nd paragraph:

NOTE 1 The non-corrosive conditions that prevail inside gas-filled compartments are maintained by appropriate measures such as filter material to adsorb humidity and decomposition products, if any.

Replace the last paragraph, reproduced here below, by text that follows:

~~Gas-filled compartments with design pressures higher than 300 kPa (relative pressure) shall be designed according to the pressure requirements of IEC 62271-203.~~

Materials used in the construction of enclosures should be of known and certified minimum physical properties on which pressure tests are based (see 7.103). The manufacturer is responsible for the selection of the materials and the maintenance of these minimum properties, based on certification of the material supplier or tests conducted by the manufacturer, or both.

The NOTE becomes NOTE 2.

6.103.2.2 Design

Replace the 1st paragraph by following text:

The design of a fluid filled compartment shall be based on the nature of the fluid, the design temperature and the design pressure as defined in this document.

Replace the 3rd and 4th paragraph by following text:

The design pressure of a compartment is equal to the maximum pressure difference between the fluid inside the compartment at design temperature that the fluid used for insulation can reach under specified maximum service conditions, and the surrounding media, like ambient air or insulation fluids in other compartments. Therefore, the design pressure calculation shall also consider:

a) the full differential pressure possible across the compartment walls or partitions, including any evacuation process if used during filling or maintenance operations;

b) the resulting pressure in the event of an accidental leak between the compartments in the case of adjacent compartments having different service pressures.

Add after last paragraph the following text: