

On the basis of the first paragraph of Article 34 of the Construction Act (Official Gazette of the Republic of Slovenia, Nos 199/21, 105/22 – ZZNŠPP, 133/23, 85/24 – ZAID-A, 47/25 – Constitutional Court Decision and 75/25), the Minister for Natural Resources and Spatial Planning hereby issues the following

RULES

on low-voltage electrical installations in buildings and protection of buildings against lightning

I. GENERAL PROVISIONS

Article 1

(Subject matter and application of the Rules)

- (1) These Rules lay down the minimum requirements and methods for ensuring:
- the safety of low-voltage electrical installations (hereinafter referred to as 'electrical installations'); and
 - the protection of buildings against lightning (hereinafter referred to as 'lightning protection'),
- in buildings throughout their service life under normal conditions of use, in order to ensure protection against electric shock and to limit the risk to people, animals and property from lightning strikes.
- (2) These Rules shall apply to the design, construction and maintenance of buildings.
- (3) The requirements of these Rules shall apply mutatis mutandis also to civil engineering works and other land development where the regulations governing their essential requirements do not contain requirements relating to electrical installations and lightning protection.

Article 2

(Information procedure and clause)

- (1) These Rules have been issued having regard to the information procedure under Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (OJ L 241, 17. 9. 2015, p. 1).
- (2) The provisions of these Rules shall not apply to products which, in accordance with national legislation that ensures an equivalent level of protection of the public interest as defined in the legislation of the Republic of Slovenia, are legally:
- produced or marketed in other Member States of the European Union and Turkey, or
 - produced in the countries of the European Free Trade Association (EFTA), which are also signatories to the Agreement on the European Economic Area.
- (3) These Rules shall be implemented in accordance with Regulation (EU) 2019/515 of the European Parliament and of the Council of 19 March 2019 on the mutual recognition of goods lawfully marketed in another Member State and repealing Regulation (EC) No 764/2008 (OJ L 91, 29. 3. 2019, pg. 1).

Article 3

(Rules in relation to other regulations)

- (1) Specific requirements relating to electrical installations and lightning protection may, for certain types of buildings or other land development, be regulated differently by a specific regulation than by these Rules. In such case, the provisions of these Rules shall apply only to those requirements which are not regulated by specific regulations.

(2) In order to ensure fire safety and the safety of areas at risk of explosion, the relevant requirements of the regulations governing fire safety and explosion protection shall also be complied with in addition to the requirements of these Rules.

Article 4 **(Definitions of terms)**

(1) The terms used in these Rules have the following meanings:

1. 'electrical installation' means installed conductors and equipment and devices connected to such conductors, intended for the operation of a building, and permanently connected equipment with rated voltages up to and including 1000 V AC or up to and including 1500 V DC;
2. 'permanently connected equipment' means equipment and devices for the generation, conversion, consumption or storage of electrical energy;
3. 'lightning protection system (LPS)' means lightning protection installed in a building, consisting of conductors and devices and equipment interconnected by conductors. The complete lightning protection system consists of an external lightning protection system (air-termination system, down-conductor system and earth-termination system) and an internal lightning protection system;
4. 'inspection of electrical installations and lightning protection in a building' means visual inspection, testing and measurement (hereinafter referred to as 'inspection');
5. 'compatibility assessment' means an examination of the conformity of the technical characteristics of permanently connected equipment with the electrical installation of the building;
6. 'electrically complete unit' means an electrical installation, including an electrical distribution board, which performs its function independently;
7. 'responsible person' means the owner of the building or a legal or natural person to whom the owner has, by contract or authorisation, transferred responsibility for the electrical installation and lightning protection.

(2) Terms and abbreviations relating to electrical installations and lightning protection and to the construction of buildings that are not defined in these Rules shall have the meaning assigned to them in the Slovenian standards on electrical installations and lightning protection referred to in the reference documents in the technical guidelines referred to in Article 10 of these Rules and in the regulations governing the construction of buildings.

Article 5 **(Complexity of the electrical installation and lightning protection)**

(1) Complex electrical installations and complex lightning protection (hereinafter referred to as 'complex installations') are installations:

- in premises where electrical power installations are installed,
- in buildings or parts of buildings with an IT earthing system,
- with a permanently connected equipment for the generation, storage or conversion of electrical energy,
- in buildings or parts of buildings containing areas at risk of explosion,
- in premises with a corrosive atmosphere and in premises where explosive atmospheres may form,
- in buildings intended for the manufacture and storage of explosives,
- in or on buildings with lightning protection designed to protection level I or II;
- located wholly or partly within the earthing systems of high-voltage overhead lines for electric traction.

(2) Complex electrical installations also include installations:

- or electrically complete units thereof equipped with a protective device with a rated current of 63 A or more,
- in buildings, or electrically complete units thereof, which, following an interruption or failure of the grid power supply, are automatically switched over to be powered, either temporarily or for a longer period, by their own source of electricity.

(3) Less complex electrical installations and less complex lightning protection (hereinafter referred to as 'less complex installations') are installations that are not complex electrical installations or complex lightning protection.

Article 6 **(Installation of products)**

Only products complying with the requirements of the regulations governing the placing of products and construction products on the market shall be installed in electrical installations and lightning protection systems.

Article 7 **(Prohibition of stricter requirements)**

When issuing design conditions and opinions in accordance with the law governing construction and connection consents in accordance with the law governing energy, the operator of the combined electricity transmission and distribution system or the operator of a closed distribution system (hereinafter referred to as 'the consenting authority') shall not impose stricter requirements concerning the safety of its electrical installation and lightning protection than those laid down by these Rules and shall not prescribe the type or design of protection against electric shock, but shall only indicate which of the following electrical installation systems may be connected to its network:

- the system in which the operational and protective earthing are combined (TN) or
- the system in which the operational and protective earthing are separated (TT).

II. REQUIREMENTS FOR ELECTRICAL INSTALLATIONS AND LIGHTNING PROTECTION

Article 8 **(Ensuring safety and protection)**

(1) Electrical installation shall:

- prevent or at least limit the harmful consequences of electric shocks,
- prevent excessive heating of its components,
- prevent ignition of potentially explosive atmosphere,
- prevent undervoltage, overvoltage and excessive electromagnetic effects,
- prevent the hazards arising from interruption of the power supply,
- prevent other hazards (e.g. arcing, uncontrolled mechanical operation),
- ensure the correct and uninterrupted operation of installed equipment,
- enable the correct and uninterrupted operation of consumers connected to it,
- not impede the continuity and quality of electricity supplied to the neighbouring installation system with excessive voltage fluctuations or other technical problems, and
- ensure the correct and uninterrupted operation of equipment for the generation and storage of electrical energy connected to it, in all cases of energy flows in the installation and operating conditions of the equipment.

(2) Lightning protection shall:

- conduct atmospheric discharge safely into the ground without harmful consequences and, in doing so, shall not cause sparking or electrical flashovers that could cause a fire,
- prevent failures of electrical, telecommunications and other utility systems or limit them to the lowest possible level,
- prevent damage to electrical and electronic equipment or limit it to the lowest possible level, and
- provide protective measures against touch and step voltages in order to limit injury to people and animals and damage to property.

(3) For all complex and less complex buildings, except less complex and non-complex detached and semi-detached residential buildings, lightning protection shall be provided at least at protection level IV.

(4) Notwithstanding the preceding paragraph, for buildings referred to in Annex 1 to these Rules, the designer shall, on the basis of the map or table of maximum lightning flash density values in Annex 2, which forms an integral part of these Rules, carry out a lightning strike risk assessment and, on the basis thereof, determine the appropriate lightning protection level. Where the investor has more accurate data on the lightning flash density for the site of the proposed construction, provided to the investor or designer by a legal person that monitors and processes such data and is listed in Annex 2 to these Rules, that data shall be used. The risk assessment shall be carried out using the lightning strike risk assessment methodology set out in Annex 3, which forms an integral part of these Rules.

(5) For a single- or two-dwelling building with permanently connected equipment for the generation of electrical energy, lightning protection shall be provided at least at protection level IV, unless the designer demonstrates otherwise by means of a risk assessment.

(6) A building with an electrical installation and lightning protection shall have a common earthing system for the electrical installation and lightning protection, which shall comply with the connection consent issued by the distribution system operator, and shall ensure the safe operation of the external and internal lightning protection systems.

III. METHODS OF MEETING THE REQUIREMENTS

Article 9 (Technical guidelines)

(1) The technical guidelines for construction laying down recommended construction measures or solutions for meeting the requirements of these Rules are the Technical Guideline for Construction TSG-N-002 Low-Voltage Electrical Installations and TSG-N-003 Protection Against Lightning.

(2) Where the measures or solutions (hereinafter referred to as 'measures') set out in the technical guidelines referred to in the preceding paragraph and in the documents to which those guidelines refer are applied in full in the design and construction of the electrical installation and lightning protection in a building, compliance with the requirements of these Rules shall be presumed.

Article 10 (Use of non-recommended measures)

(1) In the design and construction of electrical installations and lightning protection, solutions other than the measures set out in the technical guidelines may be used instead of the recommended methods, provided that such solutions ensure compliance with the requirements of these Rules and at least the same level of safety as the design and construction prepared and carried out using the technical guidelines referred to in the preceding article.

(2) The measures referred to in the preceding paragraph constitute the non-use of a recommended method in accordance with the law governing construction. Compliance of the electrical installation and lightning protection with the requirements shall in such cases be ensured by examining the documentation for the implementation of construction in accordance with Article 17 of these Rules.

(3) Notwithstanding the first paragraph of this article, in all cases the actions referred to in Articles 13 and 14 of these Rules shall be carried out exclusively in the manner specified in the technical guidelines referred to in the first paragraph of Article 9 of these Rules.

(4) Notwithstanding the first paragraph of this article, the lightning protection risk analysis methodology set out in point 2 of the Technical Guideline for Construction TSG-N-003 Protection Against Lightning shall always be used for lightning protection.

Article 11

(Inspection provider)

- (1) Tasks relating to the inspection of electrical installations and lightning protection referred to in Articles 13 and 14 of these Rules may be carried out only by an inspection provider (hereinafter referred to as 'inspector'), meaning a natural person who has obtained a national vocational qualification for the inspection of complex electrical installations and lightning protection or a national vocational qualification for the inspection of less complex electrical installations and lightning protection in accordance with the law governing national vocational qualifications.
- (2) Inspection of complex installations may be carried out only by a natural person who has obtained the national vocational qualification of inspector of complex electrical installations and lightning protection installations and possesses the relevant competences.
- (3) Inspection of less complex installations may be carried out by a natural person who has obtained the national vocational qualification of inspector of less complex electrical installations and lightning protection installations or of inspector of complex electrical installations and lightning protection installations and possesses the relevant competences.
- (4) Tasks relating to the inspection of electrical installations in premises where explosive atmospheres may occur may be carried out by an inspector only in the presence of an authorised person designated by the employer to work in an explosive atmosphere, in accordance with the regulation governing explosion protection.
- (5) The inspector shall carry out regular and extraordinary inspections of electrical installations and lightning protection on the basis of the as-built design and the certificate of reliability of the building or other documentation enabling the inspection, provided by the owner.
- (6) An inspector carrying out the inspection of an electrical installation and lightning protection during the construction of the same building shall not supervise the construction and shall not carry out construction works.
- (7) A foreign service provider established in a Member State of the European Union, the European Economic Area or the Swiss Confederation, or established in a country with which an appropriate international agreement has been concluded (hereinafter referred to as 'contracting countries'), wishing to perform in the Republic of Slovenia activities relating to the inspection of electrical installations and lightning protection referred to in Articles 13 and 14 of these Rules, may perform such activities in any legal form, provided that it meets the conditions for the lawful performance of those activities in the country of establishment.
- (8) A foreign service provider established outside the contracting countries (hereinafter referred to as 'third countries') may perform activities falling within the scope of tasks relating to the inspection of electrical installations and lightning protection referred to in Articles 13 and 14 of these Rules under the conditions laid down in the preceding paragraph, provided that the condition of substantive reciprocity is met. That condition shall be deemed to be met where a service provider established in the Republic of Slovenia may, in the country of establishment of the foreign service provider, perform activities falling within the scope of tasks relating to the inspection of electrical installations and lightning protection referred to in Articles 13 and 14 of these Rules under the same or similar conditions as those under which foreign service providers may offer such activities in the Republic of Slovenia, and compliance with those conditions is not substantially more difficult for a service provider established in the Republic of Slovenia than is prescribed under the legal order of the Republic of Slovenia for foreign service providers. Where the service provider is established in more than one third country, the legal order of the country with the stricter requirements shall be taken into account when determining substantive reciprocity.

Article 12
(Initial inspection of electrical installations and lightning protection)

- (1) The investor shall ensure that an inspector is appointed before the commencement of construction works relating to the inspection of electrical installations and lightning protection.
- (2) As part of the supervision of construction, the supervisor shall ensure that the inspector inspects those construction works that affect the safety of the electrical installation and lightning protection. Where the inspector identifies deficiencies in the design documentation or in the execution of works at an individual stage, the inspector shall notify the supervisor thereof. The inspector shall carry out their tasks in cooperation with the construction supervisor.
- (3) During the initial inspection, the inspector shall verify the compliance and safety of the electrical installation and lightning protection with these Rules and with the design documentation for the execution of construction or the as-built design documentation. The compliance verification shall also include a compatibility assessment of installed equipment and installed devices intended for the operation of the building and permanently connected equipment. The inspector shall draw up a report as specified in Article 14 of these Rules. The report shall be a mandatory annex to the certificate of reliability of the building.
- (4) For the purpose of verifying the safety of the electrical installation under operating conditions, the electrical installation shall be temporarily connected to the power supply. The temporary connection and the duration for which the electrical installation is to remain connected to the power supply pursuant to the first paragraph shall be carried out in accordance with the technical guidelines for construction referred to in the first paragraph of Article 10 of these Rules and the System Operating Instructions for the electricity distribution system.
- (5) The electrical installation contractor shall be responsible for implementing safety measures during the temporary connection of the installation to the power supply.
- (6) The provisions of the fourth and fifth paragraphs of this article shall apply mutatis mutandis also to the initial inspection of electrical installations that are not directly connected to the distribution system.

Article 13
(Regular and extraordinary inspection)

- (1) Regular and extraordinary inspections of electrical installations and lightning protection shall constitute maintenance of the building.
- (2) Regular inspection of complex electrical installations and less complex lightning protection shall be carried out at intervals not exceeding four years.
- (3) Regular inspection of complex lightning protection shall be carried out at intervals not exceeding two years, and regular visual inspections at intervals not exceeding one year.
- (4) Notwithstanding the preceding two paragraphs, regular inspection referred to in the first paragraph of this article shall be carried out:
- in a part of a building where an explosive atmosphere may occur or in a part of a building and a circuit specified in the explosion hazard assessment, at intervals not exceeding three years, and regular visual inspections at intervals not exceeding one year; in a part of a building where a corrosive aggressive atmosphere also occurs, at intervals not exceeding two years, and regular visual inspections at intervals not exceeding one year;
 - in a building intended for the manufacture and storage of explosives, at intervals not exceeding one year, and regular visual inspections at intervals not exceeding six months.
- (5) Regular inspection of less complex electrical installations shall be carried out at intervals not exceeding eight years, while regular inspection of electrical installations in single- and two-dwelling buildings shall be carried out at intervals not exceeding 16 years.

(6) Notwithstanding the preceding paragraph, regular inspection of electrical installations in detached single-dwelling buildings with an installed photovoltaic power plant shall be carried out at intervals not exceeding eight years.

(7) An extraordinary inspection of an electrical installation and lightning protection shall be carried out following damage, repairs or other interventions, including renovation or minor reconstruction, and following the connection of new installed equipment and installed devices and permanently connected equipment that may affect safety. An extraordinary inspection shall be carried out only on those electrically complete units of the electrical installation or lightning protection on which the intervention has been carried out. An extraordinary inspection of lightning protection shall also be carried out following each direct lightning strike to the lightning protection system, following any damage to the building caused by a lightning strike, or following an intervention in the lightning protection system. An extraordinary inspection shall also be carried out in the event of construction interventions affecting the building envelope, including the installation of equipment, where such interventions affect protection against lightning.

(8) In buildings or electrically complete units in buildings with basic protection against electric shock by automatic disconnection of the supply, in a two-wire configuration (with neutralisation), electrical installations shall be inspected at intervals not exceeding eight years.

(9) The provisions of this article shall also apply to buildings with installed electrical installations or lightning protection that were constructed and in regular use before the entry into force of these Rules.

Article 14 **(Scope of inspection and report)**

(1) During the inspections referred to in Articles 12 and 13 of these Rules, the electrical installation and lightning protection shall be inspected and a report shall be drawn up to the extent and in the manner laid down in both technical guidelines. The report shall provide a clear and unambiguous assessment of the condition identified in the inspected electrical installation and lightning protection, stating whether the inspected electrical installation or lightning protection complies with the requirements of these Rules.

(2) Where, during an inspection, the inspector finds that the electrical installation and lightning protection pose or could pose a hazard, the inspector shall state the non-conformities in the report and may also include a proposal for the measures necessary to remedy the situation. The inspector shall submit the report to the person responsible for the building. The non-conformities shall be remedied within the period specified by the inspector in the report. Following the remedying of the non-conformities, the inspector shall repeat the relevant part of the inspection to establish whether the non-conformities have been remedied and shall draw up a report thereon.

(3) The person responsible for the building shall keep the reports of all inspections.

Article 15 **(Use and maintenance)**

(1) In accordance with the provisions of these Rules, the person responsible shall ensure the timely and proper performance of all actions necessary for the safe use and maintenance of the electrical installation and lightning protection.

(2) Maintenance of electrical installations and lightning protection may be carried out by a person with appropriate professional education and acquired professional and practical knowledge in the field of electrical installations and lightning protection, as well as knowledge of occupational safety and health.

(3) The person responsible for the electrical installation or lightning protection shall keep documentation and records relating to the maintenance of and modifications to the electrical installation and lightning protection.

IV. PROJECT DOCUMENTATION

Article 17 **(Design requirements)**

(1) In the project documentation, the designer shall explicitly state whether the documentation for the execution of construction has been prepared on the basis of a technical guideline or on the basis of Article 10 of these Rules.

(2) Where measures referred to in Article 10 of these Rules are used in the project documentation, all essential assumptions on which the designer based the proposed design solutions shall be described in detail in the technical report.

(3) The project documentation for the execution of construction of the electrical installation and lightning protection shall contain at least:

- a description and sizing of the power supply,
- descriptions of the individual systems and installations,
- a description of the design of the installation and power supply, including calculations for the sizing of the electrical installation and equipment and voltage-drop calculations,
- protection against electric shock, including protection calculations,
- the power supply and equipotential bonding system,
- earthing of the building, including earthing calculations,
- the method of implementing lightning protection, including calculation of the system protection level and risk assessment,
- solutions for preventing harmful effects on the environment and space (noise, electromagnetic effects and compatibility),
- external influences on the installation (moisture, water, dust, heat) and the measures required to reduce them,
- compliance with fire safety measures and safety measures for areas at risk of explosion,
- compliance with measures for safety in use,
- the impact of the quality of electricity.

(4) In addition to the requirements set out in the preceding paragraph, the project documentation for the execution of construction relating to the lightning protection system shall also contain:

- the protection level of the building,
- separation distances between metal masses, including calculations,
- floor plans of roofs and facades of buildings with the main characteristics of the air termination system,
- the external lightning protection system – air-termination system, down conductors and earth termination system,
- the internal lightning protection system – direct galvanised connections with cross-sections and planned installations of surge protection devices,
- the value of the earthing resistance, including the necessary calculations,
- the types of earthing devices and metering points (e.g. strip, mesh, foundation earthing device),
- connections of metal masses, with defined equipotential bonding bars,
- the type and location of connections to adjacent buildings and installations (e.g. water supply installation, gas installation, electrical installation, information and communications installations, protection),
- the protection system against excessive touch and step voltages, and
- other data relevant to the installation or lightning protection system (e.g. an isolated system).

(5) The electrical engineering design shall demonstrate the compliance of all measures and solutions relating to the electrical installation and lightning protection, in particular as regards the common equipotential bonding elements, the external air termination system with down conductors and the design of the internal lightning protection system.

(6) Instructions for the operation, use and maintenance shall be drawn up before the electrical installation and lightning protection are put into use.

Article 18

(Obligation to inspect documentation for the execution of construction)

(1) Where, in designing the electrical installation and lightning protection of a building, the designer has not used the recommended method, the part of the documentation for the execution of construction relating to the verification of the technical soundness and calculation accuracy of those parts of the documentation for the execution of construction concerning the electrical installation and lightning protection shall be inspected. The inspection shall demonstrate that the submitted documentation for the execution of construction meets the requirements of these Rules to a level at least equivalent to that which would have been achieved had the relevant technical guidelines and the documents to which those guidelines refer been used.

(2) The inspection referred to in the preceding paragraph shall be carried out by a designer who has not participated in the design of the building concerned. On behalf of and for the purposes of the designer referred to in the preceding paragraph, the inspection shall be carried out by an authorised engineer in the field of electrical engineering who has not participated in the design of the building concerned.

(3) The inspector shall include in the inspection statement only the information essential to the scope of the inspection referred to in the first paragraph of this article. The subject matter of the inspection shall be limited exclusively to checking the technical soundness and calculation accuracy of the electrical engineering design contained in the project documentation for the execution of construction, demonstrating that the submitted project documentation for the execution of construction meets the requirements of Article 8 of these Rules to a level at least equivalent to that which would have been achieved using the recommended methods referred to in Article 9 of these Rules.

V. TRANSITIONAL AND FINAL PROVISIONS

Article 19

(Documentation during the transitional period)

The application for the commencement of construction may, until 1 January 2028, be accompanied by project documentation for the execution of construction drawn up in accordance with the Rules on the Requirements for Low-Voltage Electrical Installations in Buildings (Official Gazette of the Republic of Slovenia, Nos 140/21 and 199/21 – GZ-1) and the Rules on the Protection of Buildings Against Lightning (Official Gazette of the Republic of Slovenia, Nos 140/21 and 199/21 – GZ-1), provided that the contract for the preparation of the project documentation for the execution of construction was concluded before the entry into force of these Rules.

Article 20

(Expiry)

On the date of entry into force of these Rules, the Rules on the Requirements for Low-Voltage Electrical Installations in Buildings (Official Gazette of the Republic of Slovenia, Nos 140/21 and 199/21 – GZ-1) and the Rules on the Protection of Buildings Against Lightning (Official Gazette of the Republic of Slovenia, Nos 140/21 and 199/21 – GZ-1) shall cease to have effect.

Article 21
(Entry into force and application)

These Rules shall enter into force on the fifteenth day following their publication in the Official Gazette of the Republic of Slovenia and shall apply six months after their entry into force.

No xxx

Ljubljana, xx month xxxx

EVA xxx

Jože Novak
Minister

BUILDINGS WITH LIGHTNING PROTECTION SYSTEMS FOR WHICH A RISK ASSESSMENT IS REQUIRED

Building code	Description of buildings	Additional condition
1	Buildings	- the height of the building or part of it (measured from the level of the surrounding terrain) is 20 m and more, - buildings that can accommodate more than 60 people at a time, - buildings listed as cultural heritage.
125	Industrial and warehouse buildings	- facilities in which substances that may create a potentially explosive atmosphere are produced or stored, - facilities containing explosives and intended for the production, testing, destruction, storage and sale of explosives.
126	Buildings of general social importance	
21302	Aeronautical radio navigation facilities	- the height of the facility or its part (measured from the level of the surrounding terrain) is 20 m and more.
23	Industrial building complexes	- the height of the facility or its part (measured from the level of the surrounding terrain) is 20 m and more, - facilities in which substances that may create a potentially explosive atmosphere are produced or stored¹, - facilities containing explosives and intended for the production, testing, destruction, storage and sale of explosives.
2302	Energy plants	

RISK ASSESSMENT METHODOLOGY

1. Basic procedure

(1) The following shall be carried out:

- identification of the structure to be assessed and its characteristics; and
- determination of the risk R .

2. Structure taken into account for the risk assessment

(1) The structure taken into account shall comprise:

- the building itself,
- installations in the building,
- the contents of the building,
- persons in the building, on the roof of the building or within 3 m of the exterior of the building; and
- the environment affected by damage to the building.

(2) The structure taken into account may be divided into several risk zones.

(3) Lines outside the building shall be taken into account only where harmful currents flow into the building through such lines.

3. Procedure for determining the protection required for risk R

(1) Lightning protection shall be provided where risk R is higher than the tolerable risk R_T .

(2) In such a case, protective measures shall be implemented so that risk R is reduced to no more than the tolerable risk R_T .

(3) Where a risk assessment is not required, the person responsible for the building may decide whether or not to reduce risk R .

(4) Where the risk assessment shows that the risk is equal to or lower than the tolerable risk, lightning protection is not required to reduce the risk, but may be:

- useful for reducing the frequency of damage to internal systems; or
- appropriate where there is a desire to reduce losses (or unavailability of services).

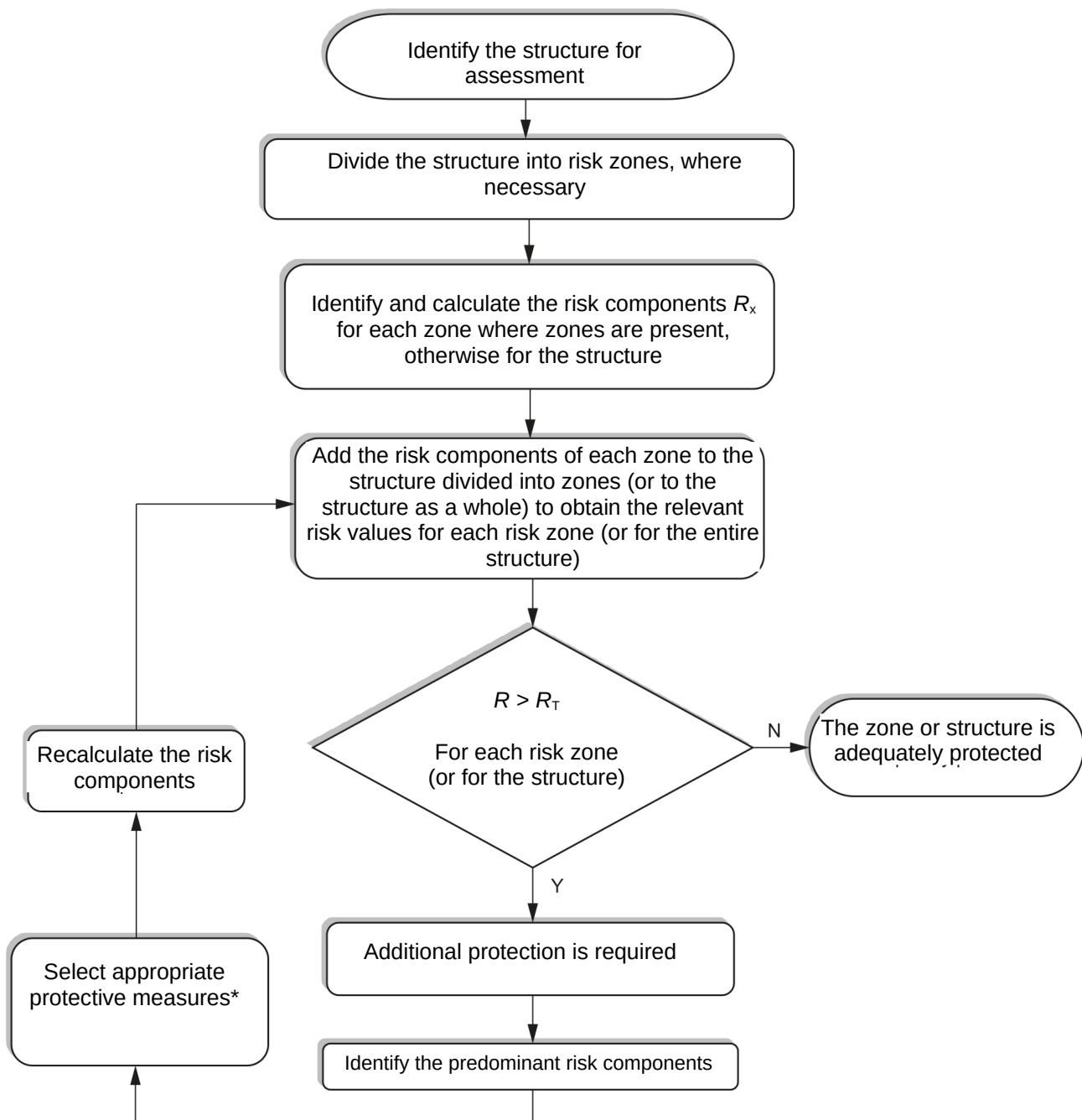
(5) The following steps shall be carried out to determine whether the risk exceeds the tolerable risk:

- identification of the risk components R_x that contribute to the risk,
- calculation of the identified risk components R_x ,
- calculation of the total risk R , and
- comparison of risk R with the tolerable risk R_T .

(6) Where the structure is divided into several risk zones Z_s , risk R shall be determined for each risk zone Z_s . The comparison of risk R with R_T shall be carried out:

- for each risk zone of the structure in a structure divided into zones,
- for the entire structure in a single-zone structure.

The figure below shows the determination of the need for protection for risk R .



* See Table 3 of TSG-N-003

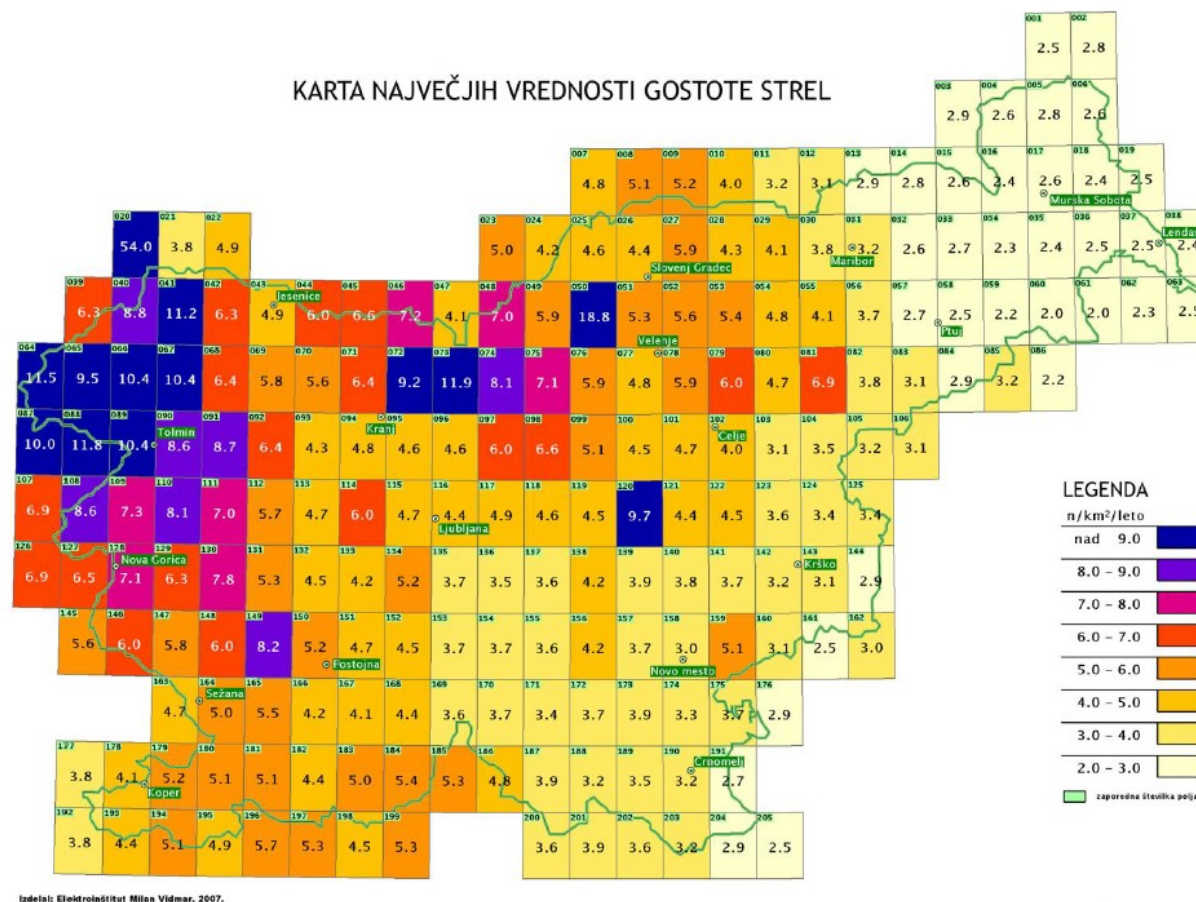
TABULAR PRESENTATION OF MAXIMUM LIGHTNING FLASH DENSITY VALUES

Field No.	Local designation of field	Maximum lightning flash density [n/km ² /year]	Field No.	Local designation of field	Maximum lightning flash density [n/km ² /year]
001	Katicin breg	2.3	041	Kranjska Gora	13.3
002	Budinci	3.2	042	Mojstrana	4.6
003	Fikšinci	2.4	043	Jesenice	3.7
004	Kuzma	2.6	044	Willow	4.8
005	Mačkovci	2.9	045	Ljubelj	4.6
006	Šalovci	2.8	046	Spodnje Jezersko	4.3
007	Libeliško polje	3.1	047	Zgornje Jezersko	3.6
008	Pernice	3.2	048	Solčava	4.9
009	Radelj	3.5	049	Črna na Koroškem	4.1
010	Remšnik	3.9	050	Žerjav	10.5
011	Spodnja Kapla	3.3	051	Šoštanj	2.9
012	Zgornja Kungota	3.0	052	Mislinja	2.8
013	Šentilj	2.5	053	Vitanje	3.2
014	Zgornja Ščavnica	2.3	054	Oplotnica	3.1
015	Gornja Radgona	2.8	055	Slovenska Bistrica	3.5
016	Radenci	2.9	056	Pragersko	3.0
017	Murska Sobota	2.9	057	Zlatoličje	2.7
018	Turnišče	2.7	058	Ptuj	2.9
019	Kobilje	3.0	059	Gorišnica	3.0
020	Peč	55.6	060	Ormož	2.9
021	Koren	3.0	061	Središče ob Dravi	2.6
022	Kepa	5.0	062	Mura	2.3
023	Peca	3.4	063	Ledava	2.2
024	Mežica	2.8	064	Breginj	13.0
025	Ravne na Koroškem	3.3	065	Bovec	8.6
026	Slovenj Gradec	2.9	066	Soča	8.3
027	Radlje ob Dravi	3.5	067	Ukanc	9.4
028	Ribnica na Pohorju	3.8	068	Bohinjska Bistrica	3.1
029	Lovrenc na Pohorju	3.4	069	Bled	2.6
030	Ruše	3.7	070	Radovljica	2.9
031	Maribor	2.7	071	Tržič	3.2
032	Lenart v Slovenskih goricah	2.5	072	Preddvor	7.9
033	Cerkvenjak	2.8	073	Kamniška Bistrica	10.8
034	Bučkovci	3.2	074	Luče	6.6
035	Ljutomer	2.9	075	Gornji Grad	3.3
036	Črenšovci	2.8	076	Mozirje	3.0
037	Lendava / Lendva	3.3	077	Velenje	2.9
038	Pince	3.0	078	Žalec	2.6
039	Log pod Mangartom	7.0	079	Vojnik	3.1
040	Rateče	15.3	080	Slovenske Konjice	2.3

Field No.	Local designation of field	Maximum lightning flash density [n/km ² /year]	Field No.	Local designation of field	Maximum lightning flash density [n/km ² /year]
081	Poljčane	6.3	127	Miren	4.0
082	Majšperk	2.0	128	Nova Gorica	4.7
083	Ptujska Gora	2.3	129	Batuje	5.3
084	Cirkulane	2.4	130	Ajdovščina	5.3
085	Turški Vrh	2.6	131	Godovič	5.0
086	Drava	2.2	132	Logatec	2.8
087	Logje	6.8	133	Vrhnika	3.2
088	Kobarid	6.6	134	Rakitna	4.5
089	Tolmin	6.3	135	Ig	2.8
090	Kneža	6.3	136	Grosuplje	3.1
091	Cerkno	5.4	137	Stična	2.7
092	Zali Log	3.8	138	Dobrnich	2.7
093	Železniki	4.3	139	Trebnje	2.4
094	Kranj	2.7	140	Mokronog	2.4
095	Medvode	3.5	141	Bučka	2.4
096	Kamnik	3.4	142	Krško	3.0
097	Moravče	3.6	143	Brežice	2.8
098	Zgornji Tuhinj	3.0	144	Dobova	2.5
099	Zagorje ob Savi	2.8	145	Opatje selo	3.8
100	Trbovlje	2.8	146	Gorjansko	5.5
101	Laško	2.8	147	Branik	3.8
102	Celje	2.7	148	Vipava	4.1
103	Šentjur	3.0	149	Razdrto	7.8
104	Šmarje pri Jelšah	2.6	150	Postojna	3.6
105	Rogaška Slatina	2.1	151	Cerknica	3.5
106	Dobovec pri Rogatcu	2.0	152	Velike Bloke	3.1
107	Neblo	4.9	153	Runarsko	2.6
108	Anhovo	5.4	154	Velike Lašče	3.1
109	Kanal	5.4	155	Žvirče	3.2
110	Čepovan	5.9	156	Žužemberk	3.3
111	Otalež	4.5	157	Dolenjske Toplice	3.8
112	Idrija	4.2	158	Novo mesto	2.5
113	Lučine	3.0	159	Šentjernej	5.7
114	Polhov Gradec	3.4	160	Kostanjevica	3.3
115	Brezovica pri Ljubljani	3.2	161	Bušeča vas	2.6
116	Ljubljana	3.2	162	Obrežje	2.6
117	Dolsko	3.2	163	Sežana	4.5
118	Litija	2.7	164	Divača	4.9
119	Polšnik	3.4	165	Senožeče	4.1
120	Kum	10.9	166	Pivka	4.1
121	Zidani Most	3.4	167	Palčje	3.5
122	Sevnica	2.9	168	Lož	2.6
123	Senovo	2.7	169	Babno Polje	2.6

Field No.	Local designation of field	Maximum lightning flash density [n/km ² /year]	Field No.	Local designation of field	Maximum lightning flash density [n/km ² /year]
124	Kozje	2.6	170	Ribnica	3.1
125	Bizeljsko	2.0	171	Kočevje	3.2
126	Barbana	4.0	172	Šalka vas	3.3
173	Črmošnjice	4.0	190	Črnomelj	2.3
174	Semič	2.5	191	Griblje	2.4
175	Metlika	2.9	192	Sečovelje / Sicciole	3.2
176	Drašiči	2.5	193	Dragonja / Dragogna	4.3
177	Piran / Pirano	3.4	194	Pomjan	4.3
178	Koper / Capodistria	3.5	195	Sočerga	5.4
179	Dekani	4.0	196	Žabnik	6.3
180	Kozina	4.5	197	Starod	5.4
181	Obrov	4.6	198	Novokračine	4.2
182	Ilirska Bistrica	3.7	199	Veliki Žrnjovec	4.9
183	Jelšane	3.8	200	Petrina	3.3
184	Snežnik	4.6	201	Fara	2.4
185	Novi Kot	4.4	202	Stari trg ob Kolpi	2.7
186	Osilnica	3.7	203	Sinji Vrh	2.9
187	Kočevska Reka	3.0	204	Vinica	2.5
188	Mozelj	3.3	205	Kolpa	2.1
189	Nemška Loka	3.2			

MAP OF LIGHTNING FLASH DENSITY VALUES



LEGENDA

KARTA NAJVEČJIH VREDNOSTI GOSTOTE STREL

n/km²/leto

nad.

zaporedna številka polja

LEGEND

MAP OF MAXIMUM LIGHTNING DENSITY VALUES

n/km²/year

above

field sequential number

1. The lightning flash density map is available on the website of the ministry responsible for construction.

2. More accurate data on the lightning flash density for the site of the proposed construction are available from the Milan Vidmar Electroinstitute, Hajdrihova ul. 2, 1000 Ljubljana.