

## National Electrical Safety Board's regulations in English – 2017:3

**THIS IS NOT LEGAL/JUDICIAL TEXT.** This document contains a rough translation of National Electrical Safety Board's regulations. Its contents is not legal text and it should only be used for readers who wish to get a general understanding of the contents in the Swedish regulations concerning electrical safety and electromagnetic compatibility. The texts are not necessarily comprehensive, complete, accurate or up-to-date. For legal text - please use the link below.

**Section of legislation:** Electrical installation work

**Number:** ELSÄK-FS 2017:3

**Title:** The National Electrical Safety Board's regulations on electrical installation companies and the execution of electrical installation work

**Legal title:** Elsäkerhetsverkets föreskrifter (2017:3) om elinstallationsföretag och om utförande av elinstallationsarbete

**Link to regulations:** <http://www.elsakerhetsverket.se/om-oss/lag-och-ratt/gallande-regler/Elsakerhetsverkets-foreskrifter-listade-i-nummerordning/elsak-fs-20173/>

## Chapter 1 General provisions

### Scope

**1 §** These regulations contain rules detailing how electrical installation work must be carried out and the minimum contents of the electrical installation company's self-audit scheme. The regulations also specify the minimum authorisation required by the company's compliance officer, and the procedure to register electrical installation companies carrying out electrical installation work on a system which is not their own.

**2 §** The provisions in Chapter 2 are applicable to anyone carrying out electrical installation work, whether within an electrical installation company or for non-business purposes.

The provisions in Chapters 3-4 are applicable to all electrical installation companies.

The provisions in Chapter 5 are applicable only to electrical installation companies carrying out electrical installation work on a system which is not their own.

### Definitions and abbreviations

**3 §** The definitions and abbreviations used in the Electrical Safety Act and the Electrical Safety Ordinance shall have the same meaning in these regulations.

The definitions of electrical installation company and electrical installation work are contained in Sections 4-5 of the Electrical Safety Act.

In these regulations terms are defined as follows:

Electrical Safety Act ( <i>elsäkerhetslagen</i> )	The Electrical Safety Act (2016:732) or rules superseding it,
Electrical Safety Ordinance ( <i>elsäkerhetsförordningen</i> )	The Electrical Safety Ordinance (2017:218) or rules superseding it,
<i>activity types</i>	the kinds of electrical installation work which an application can cover under Section 25 of the Electrical Safety Act

<i>electrical installation activity.</i>	the activity in an electrical installation company which constitutes electrical installation work as defined in Section 4 of the Electrical Safety Act,
<i>National Electrical Safety Board's register of companies</i>	the register kept by the National Electrical Safety Board of electrical installation companies intending to carry out electrical installation work on a system which is not their own in accordance with Section 25 of the Electrical Safety Act.
<i>compliance officer</i>	the authorised electrician(s) appointed by the electrical installation company to promote compliance within the company in accordance with Section 23 of the Electrical Safety Act,
<i>ELSÄK-FS 2008:1</i>	the National Electrical Safety Board's regulations and general advice (2008:1) on the execution of electrical installations, or rules superseding them,
<i>ELSÄK-FS 2008:2</i>	the National Electrical Safety Board's regulations and general advice (2008:2) on warning markings at electrical installations, or rules superseding them,
<i>ELSÄK-FS 2017:2</i>	the National Electrical Safety Board's regulations and general advice (2017:2) on electrical installation work, or rules superseding them,

References in this statute to sections are references to sections within this statute unless otherwise stated.

## **Chapter 2 Execution of electrical installation work**

**1 §** General provisions on the execution of electrical installation work are contained in Section 26 of the Electrical Safety Act.

## **Special requirements for electrical installation work**

### *Requirements for electrical installation work*

**2 §** Electrical installation work shall be executed in such a way that the part of the electrical installation affected by the work meets the execution requirements in ELSÄK-FS 2008:1

### *Additional requirements other than electrical installation work*

**3 §** The one who carrying out the electrical installation work shall, with regard to the part of the electrical installation affected by the work, ensure that there is

- documentation in accordance with Chapter 3, Section 8 of ELSÄK-FS 2008:1,
- markings in accordance with Chapter 3, Section 8 of ELSÄK-FS 2008:1, and
- warning markings in accordance with ELSÄK-FS 2008:2.

## **Chapter 3 Scope and content of the self-audit scheme**

**1 §** General provisions on the requirements of the self-audit scheme are contained in Section 24 of the Electrical Safety Act.

### **Scope of the self-audit scheme**

**2 §** The electrical installation company's self-audit scheme shall include the organisation, routines and other measures necessary in order to ensure that the company's electrical installation work is executed in accordance with the applicable rules.

An electrical installation company's self-audit scheme shall cover the activity the company intends to perform.

An electrical installation company may formulate different self-audit schemes for different parts of the activity provided each self-audit scheme makes it clear how the subdivision has been done.

An electrical installation company's self-audit scheme shall be documented.

The self-audit scheme shall be in Swedish or the language which is appropriate for the persons working in the electrical installation activity.

### **Content of the self-audit scheme**

**3 §** A self-audit scheme shall at least contain descriptions of the following.

*The electrical installation activity in the company and the relevant organisation*

- Electrical installation activity (Section 4).
- Skill requirements and access to skills (Section 5).
- Compliance officers (Section 6).
- Organisation for electrical installation work and the self-audit scheme (Section 7).

*Routines for the execution of electrical installation work*

- Planning and execution of electrical installation work (Sections 8 and 9).
- Check of completed work (Sections 10 and 11).

*Ongoing activity in self-audit*

- Follow-up of self-audit (Sections 12 and 13).

*Electrical installation activity*

**4 §** The self-audit scheme shall contain a description of those parts of the electrical installation company's activity in which electrical installation work is carried out.

The description shall include the following at least

- details of the activity types involved in the electrical installation work,
- the nature of the electrical installation work the company intends to carry out in the selected activity types, and
- details of the electrical installation work carried out on a system which is not the company's own and requiring registration under Chapter 5.

The activity types into which electrical installation work is subdivided are set out in Chapter 4.

### *Skill requirements and access to skills*

**5 §** The self-audit scheme shall state the skill requirements applicable to the electrical installation work to be carried out.

Unless the self-audit scheme states who is allowed to do what, it shall state which knowledge and skills are necessary for a particular kind of electrical installation work and how they are assessed.

The self-audit scheme shall contain a plan explaining how the necessary skills are maintained or if necessary developed.

### *Compliance officer*

**6 §** The self-audit scheme shall state which authorised electrician(s) in the organisation are appointed to promote compliance within the company in accordance with Section 23 of the Electrical Safety Act.

If more than one authorised electrician is appointed by the company, the self-audit scheme shall state

- how the task is divided between the compliance officers, and
- if the company carries out electrical installation work on a system which is not its own, which of them is to appear on the company's application to the National Electrical Safety Board's register of companies.

Section 22 of the Electrical Safety Act provides that someone who meets the conditions for temporary professional activity in Sweden may be regarded as authorised under certain circumstances.

### *Organisation for electrical installation work and the self-audit scheme*

**7 §** The self-audit scheme shall contain a description of the organisation which carries out electrical installation work and self-audit.

This part shall at least contain descriptions of the functions or persons with tasks in the company's self-audit scheme.

*Planning and execution of electrical installation work*

**8 §** The self-audit scheme shall contain the systems and routines necessary in order to ensure that before any electrical installation work is carried out, the conditions that apply to the electrical installation work are determined in terms of the system and the task (system knowledge) and that the requirements that are therefore relevant to the work are determined (determination of requirements).

System knowledge involves establishing

- what electrical installation work is covered by the work,
- how the part of the system involving the electrical installation work is constructed before the work takes place, and
- whether the electrical installation work changes the system in such a way that the work must be carried out with different execution requirements than were applicable to the system before the work took place.

The determination of requirements involves an assessment of which requirements are applicable to the electrical installation work, with regard to the system knowledge described in the second part.

The systems and routines covered by the self-audit scheme shall guarantee that the determination of requirements is repeated in the event that the conditions described in the second part change while the work is taking place.

**9 §** The self-audit scheme shall contain the systems and routines necessary in order to ensure

- that the persons who will carry out the electrical installation work have the relevant authorisation as an authorised electrician or are included in the company's self-audit scheme, and
- that they have the skills necessary for the electrical installation work in accordance with Chapter 3, Section 5.

*Check of completed work*

**10 §** The self-audit scheme shall contain the systems and routines necessary so that before any electrical installation work, the scope is established of the check which ensures that the completed work meets the requirements of Chapter 2 of

**11 §** The self-audit scheme shall contain systems and routines to ensure that the completed work is checked in the way determined in accordance with Chapter 3, Section 10.

The self-audit scheme shall contain routines specifying how faults and shortcomings identified in the check are handled and followed up.

*Follow-up of self-audit and the self-audit scheme*

**12 §** The electrical installation company shall perform the follow-up necessary to ensure that the company's routines are effective and that the company's self-audit is adequate. The self-audit scheme shall set out how such follow-up is to be carried out.

**13 §** The self-audit scheme shall be updated when changes are made with relevance to self-audit.

At least once per year, the electrical installation company shall review the self-audit scheme and shall verify that the registration with the National Electrical Safety Board is up to date.

## **Chapter 4 Activity types and the authorised electrician's authorisation level**

**1 §** Sections 2-5 below set out the kinds of electrical installation work to which an electrical installation company can opt to limit its activity. The activity types are grouped into four areas.

- Electrical installation work in low-voltage installations (Section 2).
- Limited electrical installation work in low-voltage installations (Section 3).
- Electrical installation work in high-voltage installations (Section 4).
- Special activity types (Section 5).



## Low voltage activity types

2 § Electrical installation work in low-voltage installations or sub-installations for low voltage is subdivided into the following activity types and includes all kinds of electrical installation work.

<b>Activity type</b>	<b>Scope of activity type</b>
<i>Railway operation - low voltage</i>	Electrical installation work in installations for railway, light rail, underground railway and trolley bus operation.
<i>Residential buildings</i>	Electrical installation work in installations or sub-installations for the use of electricity in residential buildings, including adjoining buildings and areas.
<i>Public spaces</i>	Electrical installation work in installations or sub-installations for the use of electricity in offices, restaurants, schools or other commercial or public places.  This activity type does not include electrical installation work covered by the activity type <i>Residential buildings</i> .
<i>Other installations for the use of electricity</i>	Electrical installation work in installations or sub-installations for the use of electricity in street lighting, industry, agriculture, areas with an increased fire risk, explosive atmospheres, medical facilities and other installations or sub-installations for the use of electricity not covered by the activity types <i>Residential buildings</i> or <i>Public spaces</i> .
<i>Electric power network -low voltage</i>	Electrical installation work in installations or sub-installations for general distribution via concessionary grids.

*Electrical installations for generation of electrical power* Electrical installation work in solar cell installations, battery storage, installations in hydroelectric and wind power, backup power, power supply to safety systems, and other installations and sub-installations for the production of electricity.

The activity types above are applicable in the stated scope, even if the scope includes electrical installation work which is also covered by the activity types *Lifts, gates and escalators*, *Machinery*, or *Heating, cooling and ventilation* in accordance with Chapter 4, Section 3.

### Limited low voltage activity types

3 § Limited electrical installation work in low-voltage installations or sub-installations for low voltage is subdivided into the following activity types.

<b>Activity type</b>	<b>Scope of activity type</b>
<i>Lifts, gates and escalators</i>	Electrical installation work in existing final circuits consisting of <ul style="list-style-type: none"><li>• permanent connection and disconnection of lifts, gates and escalators, and</li><li>• installation of light fittings, switches and sockets.</li></ul>
<i>Machinery</i>	Electrical installation work in existing final circuits consisting of <ul style="list-style-type: none"><li>• permanent connection and disconnection of machinery, motors and equipment, and</li><li>• installation of light fittings, switches and sockets.</li></ul>
<i>Heating, cooling and ventilation</i>	Electrical installation work in existing final circuits consisting of <ul style="list-style-type: none"><li>• permanent connection and disconnection of heating, cooling and ventilation systems, and</li><li>• installation of light fittings, switches and sockets.</li></ul>

## High voltage activity types

4 § Electrical installation work in high-voltage installations and sub-installations for high voltage is subdivided into the following activity types and includes all kinds of electrical installation work.

<b>Activity type</b>	<b>Scope of activity type</b>
<i>Electric power network</i>	Electrical installation work in installations or sub-installations for general distribution via concessionary grids.
<i>Railway operation</i>	Electrical installation work in railway installations.
<i>Other high-voltage installations</i>	Electrical installation work in installations or sub-installations not covered by the activity types <i>Electric power network</i> or <i>Railway operation</i> .

## Special activity types

5 § The following special activity type covers electrical installation work in electrical installation, both low voltage and high voltage.

<b>Activity type</b>	<b>Scope of activity type</b>
<i>Cable laying</i>	Electrical installation work in installations and sub-installations for the transmission of electricity via concessionary grids, limited to the following work: <ul style="list-style-type: none"><li>• laying underground cables, including installing the associated cable cabinets, posts, earth terminals, and installing longitudinal earth wires,</li><li>• cable pulling and feeding of overhead cable, and</li><li>• simultaneously installing cables belonging to non-concessionary grids when carrying out installation work in accordance with the first paragraph.</li></ul>

### Compliance officer's authorisation requirement

**6 §** Provisions on the requirement of electrical installation companies to have a compliance officer are contained in Section 23 of the Electrical Safety Act.

**7 §** The electrical installation company's compliance officer shall have the authorisation specified below.

<b>Activity types</b>	<b>Required authorisation level</b>
Electrical installation work in low-voltage installations  <i>Railway operations - low voltage, Residential buildings, Public spaces, Other electrical equipment, Electric power network- low voltage, production facilities</i>	A or AL
Limited electrical installation work in low-voltage installations.  <i>Lifts, gates and escalators, Machinery, Heating, cooling and ventilation</i>	A , AL or B
Electrical installation work in high-voltage installations  <i>Electric power network, Railway operations, Other high-voltage installations</i>	A

#### *Exemption from the requirement to have a compliance officer*

**8 §** Electrical installation companies which only carry out electrical installation work covered by the activity type Cable installation are exempted from the requirement in Section 23 of the Electrical Safety Act to have an authorised electrician.

The exemption does not extend to other requirements concerning execution, the self-audit scheme and registration under Chapters 2, 3 and 5.

When the electrical installation company is registered in accordance with Chapter 5, only the information specified in Chapter 5, Section 2, points 1-3 shall be provided.

## **Chapter 5 Registration requirements for the National Electrical Safety Board's register of companies**

**1 §** Provisions requiring electrical installation companies to register with the National Electrical Safety Board's register of companies (registration) before the activity can begin are contained in Section 25 of the Electrical Safety Act and Section 25 of the Electrical Safety Ordinance.

**2 §** The electrical installation company registering with the National Electrical Safety Board shall provide the following information

- 1 the company registration number of the electrical installation company,
- 2 the activity type(s) to which the registration relates
- 3 the contact person for issues concerning the registrable activity (the electrical installation activity), and
- 4 which of the company's compliance officers is to be named in the registration in accordance with Chapter 3, Section 6 point 2.

If such information is necessary for registration and if the National Electrical Safety Board requests it, the company name, addresses, legal form and places of business shall be supplied to the National Electrical Safety Board.

### **Entry into force**

These regulations enter into force on 1 June 2017.