

**Translation from Finnish**

**Legally binding only in Finnish and Swedish**

**Ministry of Economic Affairs and Employment, Finland**

**Government Decree on Electrical Work and Operational Work of Electrical Installations**

*(1435/2016)*

By decision of the Government, the following is enacted under the Electrical Safety Act

(1135/2016):

**Section 1**

**Scope of application**

This Decree lays down provisions on electrical work and operational work of electrical installations and the qualifications of personnel performing these duties referred to in chapter 4 of the Electrical Safety Act (1135/2016).

**Section 2**

**Electrical work in owner-occupied dwellings**

In section 56, subsection 1, paragraph 5 of the Electrical Safety Act a close relative refers to the spouse and one's own children or the spouse's children, parents and grandparents.

It shall be ascertained in the certification inspection that the persons performing electrical work in dwellings or residential buildings that are owner-occupied or controlled by close relatives have the statutory qualifications.

**Section 3**

**Basic requirements for electrical studies**

Suitable vocational degrees complying with sections 66—70 and 73 or complementary studies shall include a minimum of 45 ECTS credits or 40 credits of theoretical electrical studies conforming to subsection 2. The studies may include theoretical studies, laboratory courses, practical work, project work or other similar studies. Practical training or final projects are not counted in the total amount of ECTS credits.

The studies shall include the following subject matters with a minimum of 1.5 ECTS credits or one credit for each sector:

- 1) theoretical electrical engineering and electrical measurement engineering;
- 2) electrical safety regulations and standards;
- 3) electrical work safety;
- 4) electrical networks of buildings and their current-using devices;
- 5) electrical safety inspections.

Competence-based degrees shall comply with competence requirements referred to in subsection 1.

#### **Section 4**

##### **Supplementary and limited requirements for electrical studies**

Studies required by the electrical qualification 1 referred to in section 66 of the Electrical Safety Act and by limited electrical qualification 1 referred to in section 67 shall include, in addition to what is laid down in section 3, studies on transfer and distribution networks and high voltage technology.

Studies required for electrical qualification 2 referred to in section 68 of the Electrical Safety Act shall include, in addition to what is laid down in section 3, studies on transfer and distribution networks.

In derogation from what is laid down in section 3, a sufficient length for studies laid down in section 70, subsection 1 and section 73, subsection 4 of the Electrical Safety Act is 25 ECTS credits or 20 credits of electrical studies.

#### **Section 5**

##### **Basic requirements for work experience in electrical work**

To obtain a certificate for electrical qualification 1 referred to in section 66 of the Electrical Safety Act the applicant shall have a minimum of one year of work experience in high voltage installations. The work experience shall also include extensive work experience of a minimum of one year of planning, construction, inspection, use or supervision of installation tasks of electrical installations in real-estate sites or similar sites.

To obtain a certificate for electrical qualification 1 referred to in section 67 of the Electrical Safety Act the applicant shall have a minimum of two years of work experience in high voltage installations. The work experience shall also include extensive work experience of a minimum of four years of planning, construction, inspection, use or supervision of installation tasks of electrical installations in real-estate sites or similar sites.

To obtain a certificate for electrical qualification 2 referred to in section 68 of the Electrical Safety Act at least half of the required work experience shall consist of sufficiently extensive planning, construction, inspection or supervision of installation tasks of electrical installations in real-estate sites or similar sites.

## **Section 6**

### **Taking into account work experience gained before completing mandatory studies**

Work experience gained before completing mandatory studies referred to in section 70 of the Electrical Safety Act can be taken into account as follows:

- 1) half of the work experience can be taken into account when granting a certificate for electrical qualification 1 when the work experience has been obtained after completing a vocational electrical degree with a duration of a minimum of two years and the work experience is to a sufficient extent suitable for planning, construction, inspection, use or supervision of installation tasks of electrical installations in real estate or similar sites;
- 2) half of the work experience can be taken into account when granting a certificate for electrical qualification 2, when the work experience provides sufficiently extensive experience on electrical installation work in real estate.

## **Section 7**

### **Essential safety requirements for electrical work safety**

Workers shall observe the essential safety requirements enacted in the annex to this Decree when performing work referred to in section 82 of the Electrical Safety Act.

## **Section 8**

### **Derogating from standards**

When derogating from standards in line with section 85 of the Electrical Safety Act, the report on the matter shall include:

- 1) solutions selected to fulfil safety requirements;
- 2) a description on how the solutions comply with safety requirements;
- 3) identification and signature of the party drawing up the report.

## **Section 9**

### **Entry into force**

This Decree enters into force on 1 January 2017.

Annex

## **ESSENTIAL SAFETY REQUIREMENTS IN PERFORMING ELECTRICAL WORK**

### **Section 1** *General requirements*

All work shall be performed with care and professionally without endangering anyone's life and health.

The work shall be performed using established and secure working methods. If the work is performed with an exceptional or new working method, any risk factors involved in the method shall be assessed with particular care and taken into account.

Workers shall take into account procedures, prevailing working conditions and structural properties of electrical installations in Finland.

## **Section 2** *Safety supervisor of electrical work*

The electrical work supervisor shall ensure that an electrically skilled person is appointed as a safety supervisor for each electrical work site as stipulated in section 73 of the Electrical Safety Act. Safety supervisors of electrical work may participate in the work or perform all work themselves.

If an electrical work supervisor is not required for electrical work, electricians shall supervise electrical safety themselves while performing the work.

## **Section 3** *Instructions and advice*

For the purpose of electrical work and operational work of electrical installations, written instructions on working methods and work tasks shall be drawn up, if necessary, to complement requirements enacted in this annex.

Training and advice shall be provided for workers so that competence always matches work requirements.

## **Section 4** *Tools and equipment*

Safe tools and equipment that are intended for the purpose or otherwise suitable shall be used for electrical work, operational work and work close to electrical installations that may cause an electric shock or arc. The safety of the tools and equipment shall be ensured, as required, both before and during work.

## **Section 5** *Electrical work on de-energized electrical installations*

When performing electrical work it shall be ensured that the electrical installation does not have a dangerous voltage. The aim is considered to be realised if the following measures are committed after identifying the work site before electrical work is started:

- 1) the work site is isolated from the operating voltage from each power flow direction;
- 2) switching on power to the work site is prevented in a reliable manner while work is going on;
- 3) the fact that there is no voltage is ascertained in a reliable manner;
- 4) the work site is temporarily earthed with appropriate equipment when power might likely be supplied to the site via other than normal power sources or if the rated voltage of the electrical installation exceeds 1000 volts or if work is performed on an overhead line or high voltage switch gear;
- 5) live parts of electrical installations near the work site are isolated in a reliable manner from the area where work is performed.

Power may be switched on to the electrical installation where work is being performed on only after all work has been completed, temporary grounding devices have been removed and after it is certain that it is safe to switch power back on.

### **Section 6** *Electrical work on live electrical installations*

Notwithstanding the provisions of section 4, electrical work may be performed on live electrical installations (live-line working), if isolating the electrical installation in order to de-energize it causes significant nuisance and if the work is performed with special working methods so that there is no danger of electric shock or electric arc.

The following provisions referred to in subsection 1 on electrical work shall be observed:

- 1) the work is performed by electrically skilled persons who have special training and are familiar with the working method;
- 2) sufficient written instructions are available for the work;
- 3) the work shall be performed using secure tools and equipment made for the purpose;

4) the safety of workers and others is ensured by special safety measures necessitated by local conditions while work is being carried out;

5) the work does not increase the risk of explosion, fire or other similar danger.

**Section 7** *Work in the proximity of electrical installations*

When performing electrical work, operational work or work close electrical installations or when entering or leaving a work site, persons performing the work shall not accidentally come into contact with live parts or get into their proximity. When determining a safe distance the voltage level of the electrical installations, the tools and the working method shall be taken into account.

The work site shall be marked with signs and cordoned off with appropriate obstacles or other protection.

If the work site extends so close to live parts of electrical installations without protection against contact that electrical work safety could be endangered, the parts shall be reliable isolated from the work site; or provisions laid down in sections 4 and 5 shall be observed.

**Section 8** *Operational work of electrical installations*

Operational work of electrical installations shall be performed while exercising due care so that there is no danger of electric shock or electric arc. Procedures referred to in sections 4–6 are to be observed, if necessary.