Move about and work safely

at Fingrid's substations

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Contents

Read this guide carefully, keep it with you when you are moving around substations and review it if necessary.

1 General

Under normal conditions, the electricity grid and its equipment do not cause danger, if the instructions and safety distances based on these instructions are observed. This guide booklet gives instructions for moving about and working at substations managed by Fingrid.

General safety instruction entitles you to move around at a substation

The only people who may move around unattended at a Fingrid substation are electrically skilled persons or trained persons. These persons must receive guidance on at least the matters contained in paragraphs 1–12 of this guide book.

General safety instruction in accordance with this guide entitles a person to move around in a substation control room building and in its outdoor areas, with the exception of switchyard areas, transformer areas or areas separately cordoned off (e.g. reactor and capacitor areas).

General safety instruction must be updated if more than a year has passed since the previous visit to a Fingrid substation, and the person in question does not have training based on guideline KK31304 “operational and electrical work safety in the main grid” and local guidance for that particular substation.

Working at a substation requires local guidance on-site

When going to a Fingrid substation to carry out work on the substation or the power transmission grid (the object of the work is the substation, its equipment or systems, areas and structures), the person in question must receive not only general safety instruction but also local guidance on-site for the substation in question. Even merely moving about in the switchyard area of a substation, in the vicinity of transformers and in areas specially fenced or cordoned off requires local guidance. The local guidance given at the substation covers not only general safety instruction but also at least the issues contained in Chapters 13–14 of this guide.

Either the person supervising the operation or a local instructor authorised by him/her gives instruction at the substation to the person appointed to be in charge of work. Where possible, the whole work group is involved in the local guidance organised by Fingrid. The person in charge of the work performance must ensure that local guidance is also provided for those people in their work group that arrive at the worksite later, so that there are never any people there who have not received guidance. This later guidance may only be given by persons approved to do so by Fingrid. A record must be kept at the work location of all those who have received this guidance given later.

If the operational situation changes, the person supervising operation considers the need to update the local instruction. If necessary, new guidance is given at the substation for a changed operational situation.

Guidance acknowledgement and maintaining information

The content and period of validity of the local guidance are determined on the separate local guidance form, where the completion of the guidance is also acknowledged with the signature of both the instructor and the instructed. A template for the guidance form can be found at the end of this guide. As the owner of the electrical equipment, Fingrid maintains information about the guidance given.

Fingrid's online training

The goal of the online training is to improve the occupational safety awareness of people working at Fingrid's worksites and to prevent accidents. The online training is based on the most important hazards at Fingrid's worksites, the contract terms concerning safety and the relevant legislation.

Fingrid's online training consists of five basic modules and ten advanced modules.

Working at a substation requires local guidance on-site.

• The basic modules contain information on Fingrid's basic contract terms concerning safety, the general safety rules and legislation, and working at transmission lines and substations.

• The advanced modules provide the student with more detailed information on the most significant hazards at Fingrid's worksites and good practices to avoid hazards.

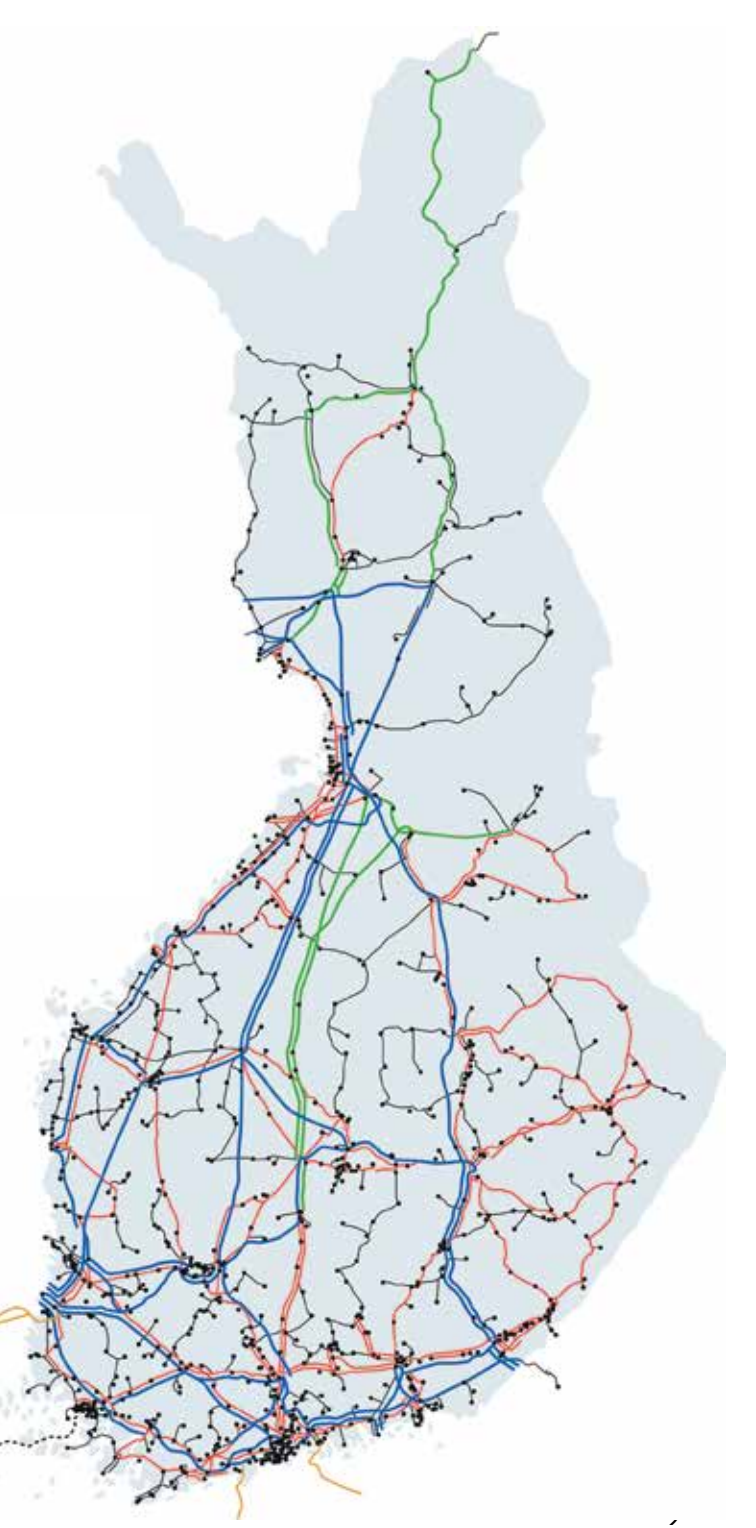
• Online training is required for everyone working at Fingrid's worksites.

• Completed online training courses are valid for three years, after which they need to be retaken.

2 Main grid

The main grid is the main electricity trans
sion grid that includes the most significant nat
high-voltage lines and more than one hundred
stations.

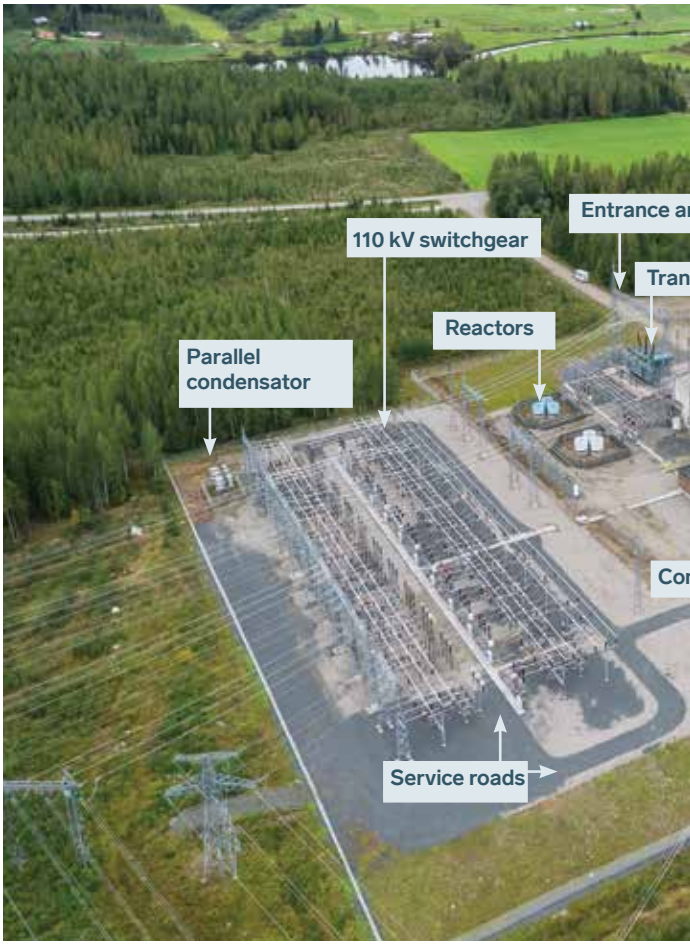
The main grid transmits about 75% of Finl
electricity. For that reason, the impact of possibl
turbances can be large and their cost effects ca
very significant.



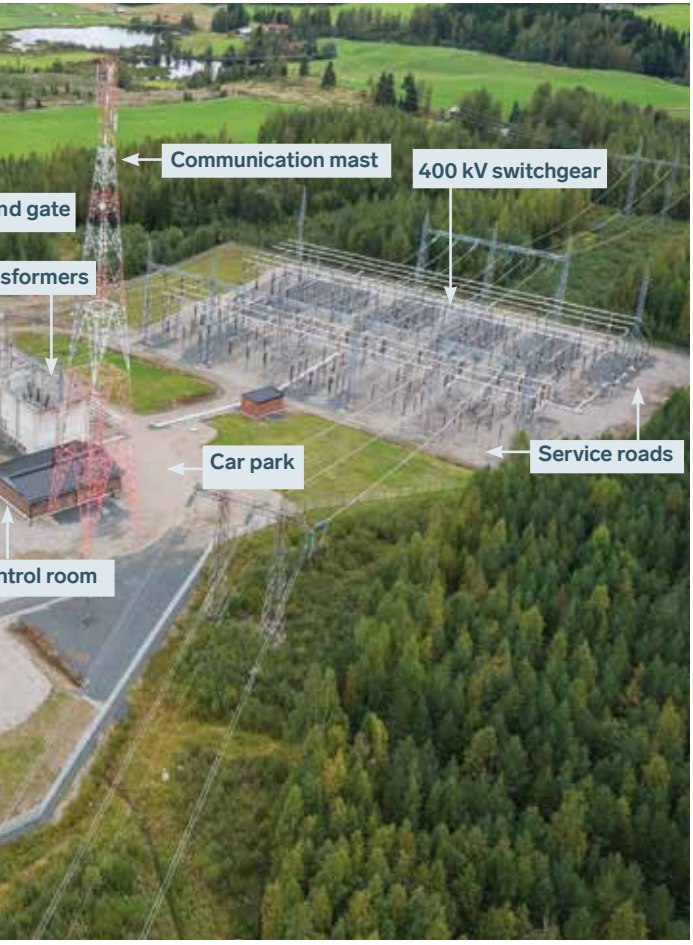
Substation

The fenced-off area of a substation is an electrical facility which can only be accessed by electrically skilled persons and trained persons who have received the necessary induction training.

Substations are the hubs of the main grid comprising, to put it simply, one or more outdoor switchyards, a power transformer and a switchgear building. Some of the substations are so-called indoor switchgears, in which the gas-insulated SF6 switchgear (GIS) is located inside the building.



The substation building houses the auxiliary power, protection relay and control centre facilities required by the substation.



Remember the dangers of electricity

• High-voltage substations are mainly air-insulated open switchgears in which the necessary insulation and protective distance to the high-voltage part of the equipment is achieved with a sufficiently large air gap.
• Observe the given minimum distances. The table below shows safety distances to be applied when a person not classified as an electrically skilled person is working in the vicinity of electrical equipment.
• Note that, with high voltage, electricity may jump even over a large air gap to a component or person connected to the ground.
• A lethal induced voltage of up to several kilovolts may form on a separated but unearthed grid component. No protective equipment can switch off such a voltage. It can only be switched off when the part of the network with the induced voltage is connected reliably to earth (earthed).
• In addition to electrical hazards, it is also advisable to take into account the risks caused by possible equipment damage. When damaged, circuit breakers and instrument transformers may explode, for which reason needless moving about in the switchyard area must be avoided.

Un/kV AC and DC	Minimum distance [m]	
	Working on the side	Working underneath
≤1	2.0	2.0
>1...45	3.0	2.0
110	5.0	3.0
150	5.0	4.0
220	5.0	4.0
400	5.0	5.0
450	6.0	6.0
500	6.0	6.0

Table 1. Minimum distances to be applied when persons not classified as electrically skilled persons are working near electrical installations.

Do not undershoot the minimum distances given here

3 Obtain access permission

Access to a substation is gained with a key or electronic access code for the Fingrid area in question. Specialists in charge of local operating matters for substations at Fingrid's local sites manage the guidance, access permissions and keys needed at Fingrid substations. To receive access permission for a substation and to arrange possible local guidance given at the substation, contact the specialist in charge of the local operation of the station in question.

4 Equipment required when working at a substation

At a minimum, the following CE labelled personal protective equipment is to be used at Fingrid's substations:

- Helmet with a means of preventing accidental detachment and falling – for example, a chin strap
- Safety footwear
- High-visibility protective clothing
- Eye protection

All persons must also have a photo ID with a visible tax number.

Visitors at substations must use a safety-colour vest, a helmet and eye protection.

If construction work is under way at the substation, visitors must also wear a helmet with a chin strap and safety footwear. Using a helmet with a chin strap is recommended

for visitors, and chin straps must always be used in helmets that are equipped with one.

Mandatory equipment

Safety helmet with a chin strap

Eye protection

Picture ID
Name, employer and tax ID

High-visibility clothing
Minimum requirement: Class 2 upper body clothing

Safety footwear
Sole puncture protection and toe protector

Personal protective equipment (PPE) must have the CE mark

Based on the risk analysis, other PPE requirements for the job are also specified, such as:

- Fall protection equipment
- Safety gloves
- Hearing protection
- Flame retardant clothing
- Respiratory protection

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5 Find out the substation's location and contact information

• The substation's location and contact information with driving directions can be found in the station's system description, among other places. The station's address is also given on the sign at the station's gate. Comprehensive information about location and contacts can also be found on the station's notice board.

• The station's address information is recorded on the local guidance form used in local guidance.

• You should also find out the station's address and location information because rescue personnel, for example, may have to be summoned there.

6 Report your arrival at the substation by text message

The working group must always notify Fingrid's SMS notification system by text message when entering and exiting a main grid substation. This report provides information about people and work groups moving about and working at substations at any given time. Reply notifications also provide the working groups with information on other working groups working simultaneously at the same work location or any existing hazards at the site.

The contact information of a person entering a substation must be saved in Fingrid's data system. Before visiting a station, send your contact information to the grid operation specialist responsible for the local operation of the Fingrid substation in question, who will store the information in the system.

How to notify of your station visit by text message:

- Send the notification by text message to **18161.**

- Type your message in the format TURVA #substation abbreviation#work description. E.g. TURVA #HU#inspection. Note the space after the word TURVA.

- You will then receive a reply that tells you whether there are other working groups at the substation at the same time. At the same time, information about your arrival will be transmitted by text message to other working groups at the same location. If you do not receive a reply, check that you entered the correct number and that the message is in the correct format and try again. If you do not receive a reply after the second attempt, contact the Main Grid Control Centre to discuss further actions.

- If the substation has been assigned to a worksite, the visit must be agreed with the person responsible for the worksite in question.

- When exiting the substation, report this with the message TURVA ##substation abbreviation. E.g. TURVA ##HU. Again, note the space after the word TURVA.

- Font size does not matter in the text message, uppercase and lowercase letters are both fine.

7 Always keep access gates locked

• The substation is accessed either through its entrance gate or sliding gate. All gates must always be kept closed and locked, also while you are at the substation.

• If the substation has a motorised sliding gate and the station is equipped with electronic access control, access to the station takes place through the motorised sliding gate. The gate is controlled with an electronic access code. In such a case, a mechanical key is not normally required.
At these stations, the smaller entrance gate is an auxiliary entrance, the opening of which requires a mechanical key. The auxiliary entrance is used if the motorised sliding door cannot be used for reasons of power outage or some other fault. Passing through the entrance gate in a station connected to access control will trip the burglar alarm, please contact the Main Grid Control Centre before opening the access gate.

• If there are other working groups at the substation, notify them of your arrival at the station and the purpose of the visit. At the same time, exchange information about the safety impact caused by your working groups on other persons and working groups moving about the station.

8 Burglar alarm system and access control

The station buildings are protected by burglar alarm devices and electronic access control. At substations equipped with electronic access control, the main gate, main entrance to substation buildings, and the burglar alarm system are controlled with an electronic access code.

At some stations, switching the burglar alarm on and off must be done using a substation key or a separate burglar alarm system control panel equipped with a numeric keypad.

- Before visiting the station, always find out about the connection/disconnection of the burglar alarm from the station's system description or a Fingrid specialist.

- When you enter a station building, switch the burglar alarm system off. When you leave, switch it on again.

- The separate relay rooms and control centre facilities inside the control room building may be behind locked doors. Contact the regional grid operation specialist to find out if a key is required.

- Fingrid's stations use CCTV systems mainly for general and safety surveillance.

9 Safe passage around substations

When moving about at substations, the safest thing to do is to use routes made for the purpose. A speed limit of 20 km/h applies at substations. Generally speaking, moving about is safest in areas away from substation equipment or live cables.

The electrical equipment situated in a substation's control centre building is usually protected from contact, and moving about in these premises is safe as long as housings, cabinets or other similar protective structures are not opened.

At older stations, there may still be some open relay boards or rear sections of control panels with exposed live components. Only electrically skilled persons may work there.

- Avoid unnecessary stay at switchgear plants.

- Do not climb on anything or use objects that extend up high.

- Inside the substation area, there may be areas or objects separately fenced off. You may not enter these areas when the devices or equipment there are in use.

- Some older stations have 10 kV and 20 kV indoor switchgears whose switchgear equipment may operate by automatic control. These facilities are special locked electrical premises marked with signs warning of a potentially fatal hazard, where moving about requires local guidance for that particular station.

- Fixed or movable work machines or tools that may be present at substations may not be used without special permission from a Fingrid specialist.

General guidance that entitles you to move around a station only allows you to move along the station's passageways, in the station building and at a safe distance outside switchgear areas (diagram on pages 10-11). Moving about in the switchyard area requires local guidance given at the station.

Avoid unnecessary stay at switchgear plants

10 Consider the hazards

High-voltage air-insulated electrical systems and installations are the most significant hazard in a substation environment. Danger caused by electricity must be taken into account by observing adequate safety distances (table 1, page 12). Unnecessary moving about in switchyard areas must also be avoided.

The switchgears at substations are remotely controlled and can also be controlled automatically or by protection relays. For this reason, at a substation you may hear the sudden and even powerful operating noises of circuit breakers and even some loud bangs. There is also always a small risk of damage associated with circuit breakers and instrument transformers. When the equipment is damaged, pieces or fragments may fly up to a distance of several dozen metres.

The safety documents for Fingrid's substations explain in more detail the general and station-specific hazards present at the substations. The hazards related to working at the substation must always be analysed in cooperation with Fingrid's specialist as part of the work planning.

If the object of work is Fingrid's substation or electrical installation, the working group must study the safety document for Fingrid's substations and draw up a safety plan for their work.

In case of thunderstorms, work on electrical equipment must be suspended when hazardous voltages resulting from lightning are possible. Furthermore, moving about in substation switchgear areas should be avoided because of the risk of damage to switchgears caused by climatic over-voltage.

The volume of gas in a gas-insulated switchgear is monitored through a power control system.

Also consider these hazards

• Any snow and ice that may fall from tall structures in winter.
• Explosion hazard caused by switching devices containing oil and compressed gas.
• Powerful magnetic fields near reactors and 20-kilovolt cable systems.
• Electrical fields and magnetic fields occurring at substations may affect the operation of medical devices. The safety document for Fingrid's electrical substations explains in more detail the occurrence of electric and magnetic fields at main grid substations.

Special features of the SF6 indoor switchgear

Sulphur hexafluoride (SF6) is used as an insulating gas in gas-insulated indoor switchgears. It is heavier than air, odourless and displaces oxygen.

The volume of gas in a gas-insulated switchgear is monitored through a power control system. Possible alarms are transmitted to the Main Grid Control Centre. A possible gas leak may also be identified by a gas sensor located at the station.

• If there is reason to suspect a gas leak, everyone must leave the premises immediately.

• When a gas leak occurs, the building must be carefully ventilated before it can be re-entered.

11 Also bear in mind

Cleanliness and order

• Park your car in a space reserved for the purpose. Do not allow it to block service and rescue passages.

• Outside working hours, store work machines in a place where they will not inconvenience the other operation at the station.

• The long-term storage of materials used for work in the area must be avoided.

• Under no circumstances may materials be kept beside the station fence, where they may help someone to climb over.

• Take care of general cleanliness and good order. Take any waste that may have been generated by your visit to the collection containers reserved for the purpose.

• Larger items of waste must be dealt with according to Fingrid's special waste management practices. Ask a Fingrid specialist about this.

Avoid the use of tap water

Most substations have a kitchen and toilet. These facilities may be used as rest and service facilities. Tap water must not, however, be used as drinking water. If the station has its own water well, the drinkability of the water may not necessarily have been studied. The quality of drinking water at a station connected to the municipal water supply network is almost always poor, since water is rarely used.

12 How to act in case of disturbance or emergency

If you notice something unusual while visiting a substation, act as follows:

• If there is no immediate need to rescue persons, take shelter indoors or at a distance of at least 60 metres from the potentially dangerous object.

• Report the problem to Fingrid's Main Grid Control Centre, tel. 030 395 4310.

• Also report it to the Fingrid specialist in charge of maintenance at the station (contact information on the station notice board).

• If you receive operating instructions from the Main Grid Control Centre, follow them. If not, agree on how to proceed with the local Fingrid specialist.

For fire and rescue situations, site cards drawn up for the rescue services can be found at stations. They are usually kept next to the fire alarm centre in the control centre building on the frame of the front door. Based on these cards, the rescue services will receive sufficient information about the site from the point of view of firefighting and rescue work.

In case of electric shock

In an electric shock, electric current runs through the human body. The danger posed by the electric shock depends on the magnitude of the contact voltage, its duration of effect and the conductivity of the environment where the shock is received.

In an electric shock, the victim may remain connected to the live component and cannot detach themselves due to muscle spasms. Even low alter-

nating current voltages – starting from around 50 V – may, at long durations, cause muscle spasms and lead to death. Often, high voltage will also cause external burns and internal damage.

To remove hazards caused by low voltage (below 1000 V), it is usually enough to disconnect the electricity supply by removing the fuses or opening the power supply circuit in another way. Depending on the conditions, you can also try to detach the victim from the source of the electric shock by using e.g. a dry garment, rope, or another tool that provides sufficient insulation. In this case, special care must be taken to avoid the effects of the power supply on yourself.

At high voltages (1000...500000 V), electric shocks can occur even without direct contact to the live component, as electricity can jump across even longer air gaps. In case of high-voltage electric shock, remain at a distance of a minimum of 20 metres from the victim and contact the control centre in question. On the main grid, you must contact Fingrid's Main Grid Control Centre, tel. 030 395 4310. Act according to the instructions of the control centre or an electrically skilled person in order to avoid danger.
Following an electric shock, you must always see a doctor for a health inspection, as even severe consequences may only occur later.

In case of an electrical incident

Quickly assess the severity of the situation. Remember your own safety!

High-voltage incident

- Call 112.
- Remain at the scene to warn others about the danger.
- Professionals will assume responsibility for the casualties.

Low-voltage incident

- Switch off the current at the main switch or remove the plug.
- If you cannot switch off the current and you know the correct procedure, separate the person from the electrical source with an insulating tool, such as a piece of clothing or rope. Consider the safety of the ground or floor surface.
- Put out burning clothing by smothering the flames with a fire blanket.
- Call 112.
- Commence CPR if you cannot wake the casualty up and the person is not breathing normally.
- Place an unresponsive, normally breathing casualty in the recovery position.

- Stop any bleeding: apply pressure on the bleeding wound and bandage the bleeding point.

Other first aid measures

- Cool a small, superficial burn with cool water, seek medical care.
- Protect the casualty from cold and monitor the person's condition until help arrives.
- Eye or hearing injuries caused by an electrical incident always require medical attention.

Emergency call 112

- Tell what has happened.
- Give the exact address and municipality.
- Answer questions.
- Act according to instructions given and turn on the speaker of your phone.
- Stay on the line until permitted to end the call.
- Direct the help to the scene.

Cardiopulmonary resuscitation

Wakes up? No.

Call 112

112

Breathing normally? No.

Compress 30 times.

Give 2 rescue breaths.

Continue CPR with the cycle 30:2.

Finnish Red Cross

redcross.fi

First aid instructions in case of an electrical accident can be found on the substation's notice board.

Review the instructions and maintain your resuscitation skills.

Prepare for accidents

If an accident occurs, immediately call the emergency number 112 and the Fingrid Main Grid Control Centre, tel. 030 395 4310. Act as instructed.

- To prepare for accidents, always make sure you know the location of the station and the evacuation assembly area. The evacuation assembly areas are marked at the stations with a sign as shown in the picture below. Usually, the evacuation assembly area is at the main gate of the substation.
- The station buildings have emergency lighting and emergency exit signs for use in case of a power outage.
- Fingrid's substation buildings have first aid cabinets with bandages and other supplies for minor injuries and accidents.
- The station's battery room or first aid cabinet has a bottle of eye wash or an eye shower for treating any possible eye injuries.
- The substations are equipped with oil spill prevention material in order to mitigate environmental damage. The material is kept in a waste receptacle reserved for the purpose, usually in the station's storage facilities. In case of environmental damage, act in accordance with separate directions prepared by Fingrid.

Assembly point

Emergency exit

13 Local guidance given at the substation

In addition to the above, local guidance given at the substation covers the topics presented in this paragraph.

The significance of the substation in the main grid

The guidance event looks at the location in the power transmission grid of the substation in question, its chief significance from the point of view of power transmission and the whole power system, conditions (e.g. abnormal operation) and the nature of consumers in the local region.

Work-related risks and electrical safety issues

In addition to general electrical regulations and standards, Fingrid's own electrical and occupational safety guidelines are also observed in work on the main grid; these include the document Operating and electrical work safety in the Main Grid (KK31304) and Fingrid's Contractual Safety Terms and Conditions S94200.

The risks caused by the work and working methods, and the protection against them, must be determined as part of the advance planning of work. A risk assessment is used as the basis for agreeing on the necessary electrical safety measures, such as cordoning off the required work areas and live equipment, posting warning signs or the use of a possible safety distance watch.

Moving about by vehicle or machine in the switchyard area

When driving in a switchyard area, special care must be taken and efforts must be made to always use the switchyard's service routes. The largest permitted free driving heights are marked with traffic signs at the ends of the switchyard service roads. If these heights are exceeded, moving about in the vehicle must be done under the supervision of an electrical professional. Even in such a case, the minimum distances shown in the table on page 38 must be observed for live components. When leaving a service route, ensure that minimum distances are kept. If necessary, a deviating driving route is marked.

When examining minimum distances in the lateral and vertical directions, you must consider the load being carried by the vehicle and all equipment protruding from the vehicle (such as antennae).

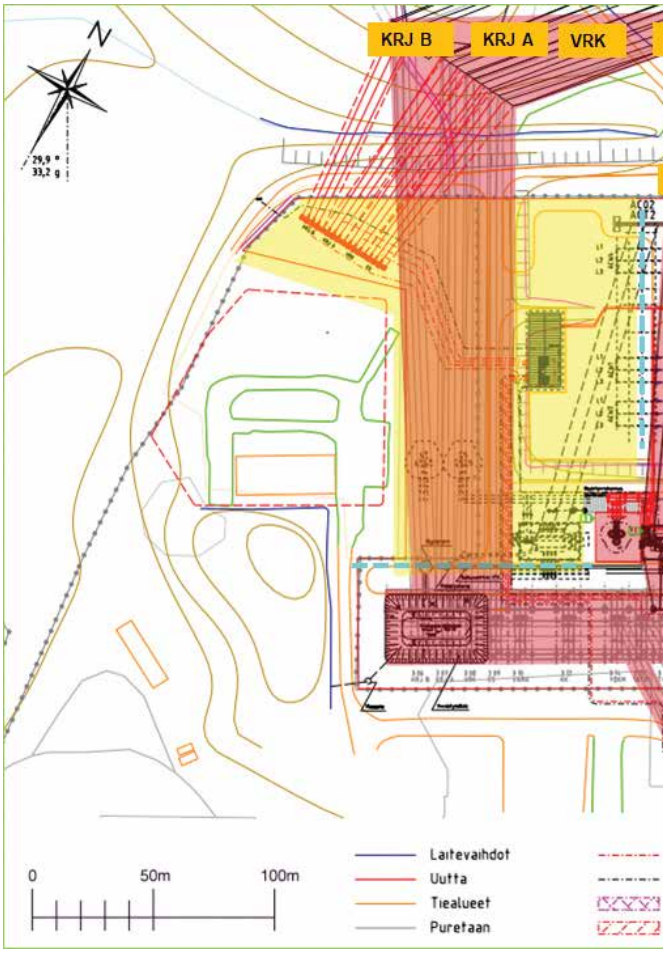
Work areas and their marking

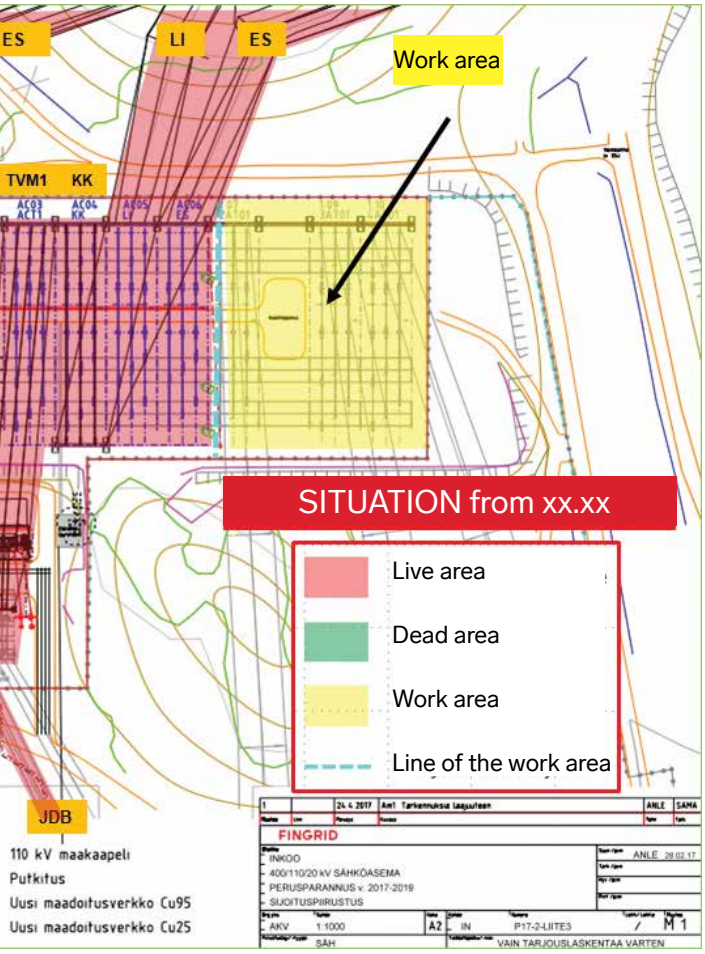
Work areas that are safe from the point of view of electrical safety are clearly defined and delineated. Specific electrical hazards that occur during work must be communicated to the performers of the work by means of signs or other reliable methods.

Do not bypass or cross access barriers made from sealing-off lines or fences.

If necessary, explanatory situational images or diagrams may be used for instruction concerning the working area and live area.

Example showing how work areas, live bays and transmission lines are marked in substation areas

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LI
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Work area
TVM1
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SITUATION from xx.xx
Live area
Dead area
Work area
Line of the work area
JDB
110 kV maakaapeli
Putkitus
Uusi maadoitusverkko Cu95
Uusi maadoitusverkko Cu25
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Nearest live components

The task of Fingrid's grid operation specialist is to convey information about the nearest live components during work to the person responsible for the work. Whenever the operating situation changes, hazardous live equipment and wires are established and the limits and markings of the work area are updated to match the new situation.

Ordinary persons and trained persons are directed to observe in their work on high-voltage objects a safety distance of 5 metres or, at a minimum, the minimum distances in accordance with the table on page 12.

When an electrically skilled person or someone under their supervision is doing work, the work area may not exceed the values shown in table 2, unless the work is being done as live work or special protection is being used. If work is being done close to the distances shown in table 2, and it is

possible that the work may extend to the nearby area defined in standard SFS 6002, the work area must be defined in advance for each job and, if necessary, it must be delineated. If necessary, a safety distance watch must be appointed for the job and, if necessary, special protection must be used to prevent entry into the live working zone.

If the person themselves or the tools and accessories they are using for the work might extend to the live working zone, one of the following must be performed and agreed in advance with the person responsible for operation:

- The work location must be de-energised or
- Live working methods must be adopted and the requirements set for live working must be adhered to.

Nominal voltage Un (kV) AC and DC	Minimum distance (m) Working to the side and underneath
≤1	no contact
10	0.35
20	0.4
110	1.0
150	1.3
220	1.6
400	2.5
450	2.9
500	3.2

Table 2. Minimum distances for work performed by or under the supervision of an electrically skilled person at a substation (dimensions for the outer perimeter of the live working zone followed at substations).

Working and moving about with machines

When an ordinary person is working with electrical equipment (including open cables) in a work machine that is movable or transferrable, the minimum distances stated in table 1, page 12 of this guide must be observed from the uncovered live structures of the electrical equipment. If it seems that these distance requirements will be undercut, the work must be done under the supervision of an electrical professional or, alternatively, the work location must be de-energised. De-energisation must be agreed in advance in accordance with the planning principles for Fingrid's transmission outages.

In work performed on electrical equipment in a moving or movable machine, the distances from the equipment's live components shown in table 3 may be observed, as long as the work is planned in advance and carried out done by experienced and professional persons under the supervision of an electrically skilled person. In that case, it is usually required that the work machine is earthed.

Nominal voltage kV	Minimum distance in electrical equipment (m)	
AC and DC	Working on the side	Working underneath
≤1	0.5	0.5
10	1.5	1.0
20	1.5	1.0
110	1.5	1.2
150	1.7	1.7
220	2.0	2.0
400	3.5	3.5
450	4.0	4.0
500	4.4	4.4

Table 3. The minimum distance between the work are of a moving or movable machine and mobile tool and an overhead wire or other exposed live component and aerial cable.

Earthing

Local guidance covers the principles of earthing and the responsibilities related to it. Special attention must be paid to additional earthing and the earthing of machinery.

Safety declaration

The principles of drawing up a safety declaration are also covered at the local guidance event, if necessary.

A safety declaration is a document by which the person responsible for work and the person responsible for operation verify, among other things, the agreed safety procedures, contact persons and contact information. It is drawn up in good time before the start of work and updated or renewed when essential information changes (e.g. changes in personnel).


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Hot work and fire alarm system

If a substation has a fire alarm centre and work causing smoke is being done in a station building, the loop of the facilities in question must be disconnected. The disconnection or reconnection of loops must be agreed in advance with a Fingrid specialist. It must also be reported to the main grid control centre. It must be restored again as soon as the work causing smoke has ceased.

Hot work done at substations requires a hot work permit. A hot work permit may be granted by a person specially appointed by Fingrid. A hot work permit defines, among other things, the necessary protection, extinguishing equipment, supervision during and after the hot work, and watch duties.

If work causing dust is done at a substation, the fire detectors must be protected from dust throughout the work and the work area must be monitored visually.

14 Information security at substations

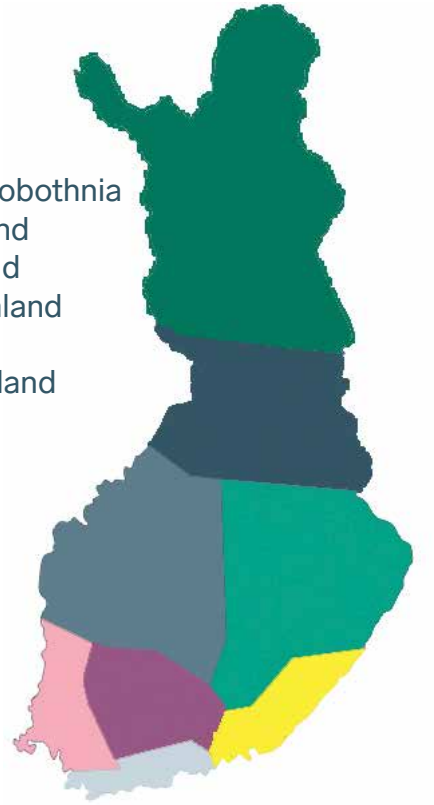
When working at Fingrid's substations, consider information security risks in addition to physical security:

- ONLY Fingrid's computers may be connected to the station's wired local area network (LAN).
- Suppliers may only connect their computers to Fingrid's wireless (Wi-Fi) guest network.
- Never give your usernames and passwords to another person. Ensure that your password is sufficiently strong and complex.
- Handle information carefully, regardless of the tool (telephone, computer, memory stick).
- Only use the data sets and tools for your work tasks.

• Ensure that your anti-virus software is up to date.
• Remember to perform a virus scan on any files before transferring them to or from Fingrid's network or equipment.
• You can use USB sticks for data transfer if they have been scanned for viruses. Format the memory stick before using to ensure that it is clean at the start of the work.
• Make sure that your computer is regularly updated in terms of information security. Both the operating system and software receive updates.
• Prevent unauthorised access to information systems by locking your workstation whenever you leave your workplace.
• If you have connected to the Internet through the substation's Wi-Fi network, you are covered by Fingrid's information security controls. For example, your connection is checked and filtered for malware if necessary. If necessary, encrypted connections may be decrypted for the inspection.
• Please also act responsibly towards Fingrid and immediately notify Fingrid's contact person of any shortcomings or problems with information security.

Fingrid's work areas

- Lapland
- Northern Ostrobothnia
- Western Finland
- Eastern Finland
- Southwest Finland
- Häme
- Southeast Finland
- Uusimaa



The responsible grid operation specialist for each work area can be reached on weekdays between 8:00 and 16:00 by calling 030 395 5000.

FINGRID MAIN GRID CONTROL CENTRE
CONNECTIONS 030 395 4300
DISTURBANCES 030 395 4310

GENERAL EMERGENCY NUMBER

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