



Occupational Health & Safety Guideline on Telecommunication Sites for Mobile Communications and Radio Broadcasting

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Legal Notice

This Guideline on Occupational Safety on Telecommunications Sites for Mobile Communications and Radio Broadcasting is the result of a working group of the telecommunications providers Salt, Sunrise and Swisscom, with the participation of representatives from SBB and Swissgrid, infrastructure service providers Cellnex and Huawei, and in close cooperation with experts from Suva. . This document reflects the legal requirements and state of the art of the moment of creation (2020). The application of this document in no way relieves the user from their statutory obligations.

The respectively current version can be accessed at www.suva.ch/mobilfunk and www.asut.ch. Later versions replace all prior documents. In the event of any conflicts, the German-language version prevails.

For the sake of better readability, the male form is used in this document to specify persons and pronouns, unless a neutral form exists. As a rule, such terms apply to all genders and should be treated as equal. The abbreviated forms are for linguistic and editorial reasons only and do not imply any kind of judgment.

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1 Goals, scope, and contact addresses

1.1 Goal

The guideline “Occupational Safety Telecommunications Sites for Mobile Communications and Radio Broadcasting” provides a foundation for occupational health and safety. The document should provide support when defining measures. It consists of the following documents:

Guideline defines the occupational health and safety requirements during the planning, construction, and operation of mobile communications and radio broadcasting transmission facilities.

Annex comprises documents that support in implementing the guideline “Occupational Safety Telecommunications Sites”.

The documents are underpinned by the following principles:

- Accidents at work can be avoided
- All work-related activities that might lead to accidents are taken into consideration.
- All levels of hierarchy assume their responsibility

1.2 Scope

The guideline applies to all telecommunications and radio broadcasting sites with a fall hazard. The industry-specific regulations on occupational health and safety (OHS) apply to other technical facilities on rooftops (e.g. solar equipment, monobloc heat pumps), as does the state of the art.

1.3 Provider contact addresses and points of contact for deactivations

Telecommunications provider	E-mail address
Salt Mobile SA	worksafety@salt.ch
SBB Swiss Federal Railways	www.sbb.ch/bnb
Sunrise LLC	network-ehs.spoc@sunrise.net
Swisscom (Schweiz) AG	safety.scs@swisscom.com
Swisscom Broadcast	securityenvironment.sbc@swisscom.com

Infrastructure service provider	E-mail address
Huawei Technologies Switzerland AG	ehsds@ms.huawei.com
Cellnex Switzerland AG (Swiss Towers AG/Swiss Infra Services SA)	swiss_operations@cellnextelecom.ch

Contact points for shutdowns and registration	Phone number
Cellnex Switzerland AG (Swiss Towers AG/Swiss Infra Services SA)	+41 800 400 900
Salt Mobile SA	+41 21 216 29 99
SBB (GSM-R)	+41 51 220 36 31
Sunrise LLC	+41 800 303 300
Swisscom Broadcast OCC (Radio/Television/Operational Radio)	+41 800 817 620
Swisscom Mobile (mobile communications)	+41 800 365 724 (office); +41 800 806 868 (24/7)
Swissphone (pager)	+41 848 889 999 (hotline); +41 31 376 06 10 (network monitoring)

2 Definitions and Abbreviations

Lone work

work carried out by a single person, outside of hearing and seeing distance of another person who would be able to provide immediate assistance after an event.¹

Employers

are persons who give orders to their own employees and third parties (e.g. subcontractors and their employees).

Employees

are all persons who work for a telecommunications provider or one of their (sub-) suppliers/contractors.

Broadcast

see Radio Broadcasting

Risk assessment

describes the process of systematically identifying and assessing all relevant hazards to employees in the course of their professional activities. In addition, all necessary measures to ensure safety and health are derived and implemented, which must then be verified for their effectiveness (risk assessment).

Risk identification

is a step to identify potential sources of harm and action to be taken in the risk assessment process or in standard situations.

Landowner

is any person/institution renting out a property for use by a telecommunications provider.

Publicly accessible zone

zones accessible to either individuals or groups of people who are not given a special order (e.g. rooftop terrace, observation platform); regardless of whether this is granted against a financial return service.

Personal protective equipment (PPE)

comprises all equipment worn by a person to protect against harmful effects. PPE must be provided in full by the employer. The employee is obligated to use the PPE (see Chapter 3).

Personal protective equipment against falls from a height/personal fall protection equipment (PPE)

comprises all equipment and systems to secure persons from falling, with safety harness, lanyards, and anchor device.

Radio Broadcasting

denotes the transmission to the public of any type of information using electromagnetic waves. In this guideline, radio broadcasting specifically denotes radio and television.

PPE Expert

person with the necessary knowledge and skills to carry out regular inspections,

¹ Suva: "Lone work can be dangerous". www.suva.ch/44094.D

knowledgeable of manufacturers' recommendations and instructions which apply to the component, subsystem, or system in question.

Occupational Safety Specialist

An "Occupational Safety Specialist" has wide-ranging knowledge in the field of occupational health and safety – after successfully completing state-recognised training/education (EigV).

Rescue system

A system that helps a person rescue themselves or another person from a free fall.

Rescue device

Component or subsystem of a rescue system that can be used to either let down a person from a higher to a lower location, or to help them get pulled up.

Facility owner

Owner or responsible operator of electrical substations, transformer stations, company facilities (plants), masts/pylons, or lines.

Telecommunications provider

Owner and responsible operator of installed telecommunications systems with associated mobile communications and radio broadcasting systems and accesses.

OHS	Occupational Health and Safety
FEDRO	Federal Roads Office
FOEN	Federal Office for the Environment
OA	Occupational Accident
FCOS	Federal Coordination Commission for Occupational Safety
EN	European Standard
ESTI	Federal Inspectorate for Heavy Current Installations
UT	Utilities
ISO	Infrastructure Operator (rail facility)
EMP	Employee
TLV	Threshold Limit Value (at the workplace)
PPE	Personal Protective Equipment
PPE	Personal Protective Equipment Against Falls from a Height
SIA	Swiss Society of Engineers and Architects
SafO	Safety Officer OHS
SstA	Selbstschutz Arbeiten im Gleis (Self-Protection when working on the Tracks)
SstB	Selbstschutz Gleisbegehung (Self-Protection while crossing railways)
SN	Swiss Standard
VKF	Vereinigung Kantonaler Feuerversicherungen (Association of Swiss Canton Fire Insurance Companies)
VÖV	Verband öffentlicher Verkehr (Swiss Public Transportation Association)

3 Legal bases

3.1 Swiss Federal Law on Accident Insurance (UVG)

Under Article 82 of the Swiss Federal Law on Accident Insurance (UVG), employers and employees have rights and obligations as concerns occupational safety.

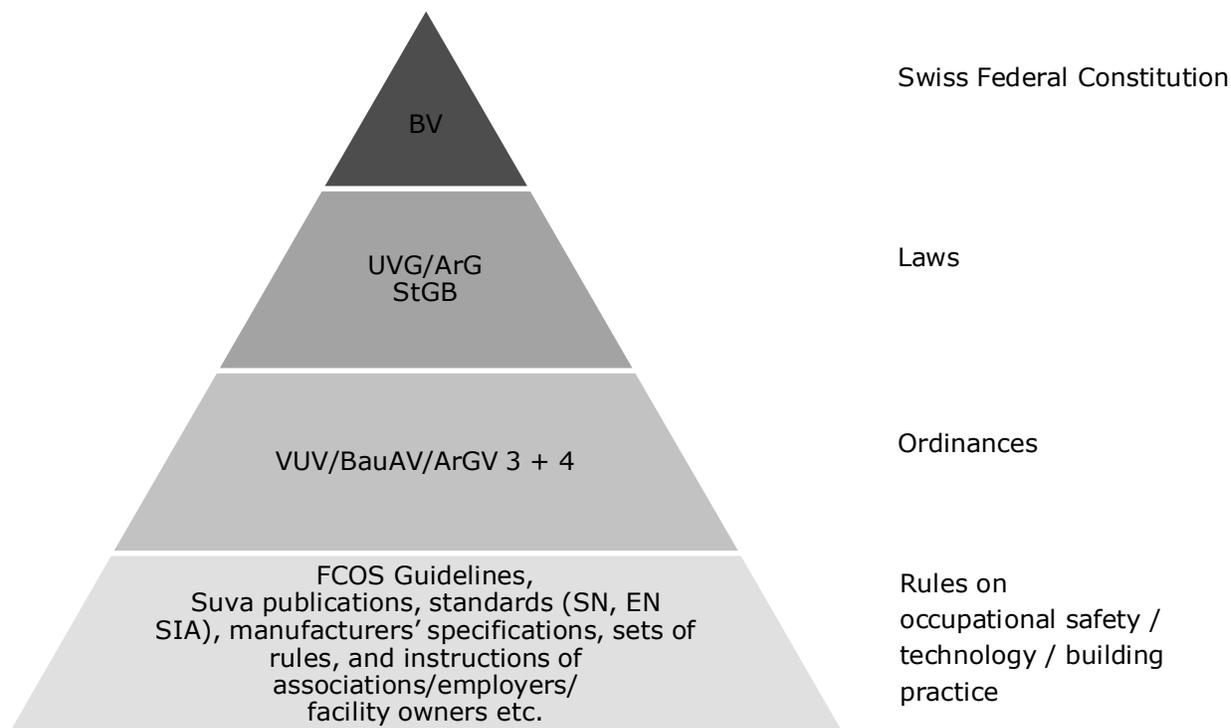
Paragraph 1

The employer is obligated to take all measures to prevent occupational accidents and occupational illnesses which are deemed necessary based on experience, applicable according to the state of the art, and appropriate considering the given circumstances.

Paragraph 3

Employees are obligated to support the employer in the implementation of regulations on the prevention of occupational accidents and occupational illnesses. Particularly, they have to make use of the personal protective equipment, properly use the safety devices, and are not allowed to either remove or modify them without permission from the employer.

3.2 Hierarchy of legal bases and recognised standards



3.3 Special hazards

When working on or near antenna masts, the following works come with special hazards²: of particular importance:

- Works with a fall hazard (super-elevated workplaces and roads)
- Non-ionising radiation (works on transmission facilities)
- Laser (use of Class 3B and 4 lasers)
- Electrification (working on or near live electrical facilities)
- Not hearing signals (working in the track area with rail traffic)

The employer is thus obligated to involve occupational safety specialists. Companies with more than 10 employees must be able to provide evidence on their safety system and organisation.

3.4 Responsibilities

3.4.1 Employers

The employer is responsible for:

- eliminating risks or reducing them to an acceptable level
- minimising residual risks through suitable measures
- seeing to it that employees can handle the risks and are adequately trained and instructed to meet the requirements³
- ensuring that on-site rescue with rescue equipment is ensured at all times

3.4.2 Employees

The employee supports the employer in all matters relating to occupational safety and:

- follows all available instructions on occupational safety, while interrupting work whenever a vital rule is infringed upon – “Stop if in Danger”⁴
- carries the provided personal protective equipment (PPE)
- does not manipulate safety devices or protective devices
- reports OHS defects to their supervisor and the facility owner (in writing)

² FCOS Guideline: *Involvement of occupational physicians and other occupational safety specialists.*
www.suva.ch/6508.D

³ VUV Art. 6, 8

⁴ www.suva.ch/regeln

3.4.3 Facility owner of the telecommunications system

- The facility owner (of the telecommunications system) plans, constructs, operates, and maintains their systems in line with the statutory regulations, applicable standards, and applicable OHS rules.
- Safety devices that were established/created in line with the old rules on occupational safety are to be adapted to current rules with structural modifications.
- Every operator assumes their responsibility in the operation and maintenance of sites in order to secure the safety of persons that work at them.

3.4.4 Co-Location

Every operator has created its own infrastructure and must maintain and service it. Infrastructure components that are co-used by another operator are to be maintained and serviced by their owner (site sharing).

3.4.5 Site Sharing

The lessor provides the lessee with infrastructure. The leased property must be properly maintained and serviced by the lessor.

If the lessee identifies a defect at a shared site, the lessor will be informed hereof in writing. (Provider addresses, see Chapter 1.3)

In case of doubt, the lessee has the opportunity to demand the relevant safety documentation within a reasonable period.

4 Conduct and hazards

4.1 Conduct at telecommunications sites

Telecommunications sites pose a range of hazards. Proper conduct and training/education can largely eliminate or at the very least significantly reduce these hazards.

If there are special situations, the employee has to be able to independently assess the situation and initiate the relevant measures. In extreme cases, this might also mean that the employee cannot execute the order. Line supervisors have to accept such decisions.

4.2 Conduct towards third parties

All employees and supervisors have to intervene in the following situations:

- an employee of a third party or co-user cannot identify themselves with valid evidence of formal qualification (e.g. an FCOS Personal Safety Passport⁵);
- the safety provisions or rules were evidently disregarded;
- employees of a third party or co-user are not competent to perform the task and will not be able to master unforeseen situations with a personal risk by themselves;

In general principle, any employee intervention must take place on coordination with the supervisor or the party responsible for the activities of the employee in question.

Exception: In the event of a direct threat to life and limb of the party involved (employee of the company or a third-party company or a third party), the employee is to immediately halt their activities. In this case, the supervisors of the involved party as well as the site operator are to be informed immediately.

Examples of situations where direct threat of life and limb is to be assumed:

- The person obviously does not have the necessary expertise
- insufficient or incomplete PPE
- work on masts/pylons without the presence of a trained and equipped accompanying person
- defective electric device
- defective rescue concept
- extreme weather conditions
- Hazard caused by third parties
- Additional obvious hazards with a high-risk potential

⁵ FCOS: *Personal Safety Passport*. www.suva.ch/6060.DSET / www.suva.ch/6090.DSET

4.3 Risk assessment

At the beginning of the planning/design phase, an (industry) expert must carry out a risk assessment.⁶

Upon completion of the construction/conversion work, a risk assessment (see Risk Assessment Checklist in the annex) must be completed for subsequent operation. The risk assessment must be documented and archived by the site operator for 10 years.

Any risks that are detected must be eliminated through systematic, technical or organisational measures. Any measures put in place to prevent or mitigate risks must be implemented. Systematic and technical measures are preferable to organisational measures and PPE (e.g. installing guardrails in place of a rope⁷).

When sites are shared, information about risks/safety must be shared (for provider addresses, see chapter 1.3).

If the existing regulations are insufficient, a risk assessment must be carried out.

4.4 Hazards on telecommunications locations and masts/pylons

4.4.1 Lone work

A person is considered a lone worker, if they cannot immediately be provided with assistance after an accident or in a critical situation, for example because they are working outside of the visual and hearing range of other persons. Lone work is not permissible if the work can result in an injury that necessitates the immediate assistance of a second person.

It must be ensured that a lone worker can receive timely assistance after an accident or in a critical situation (e.g. over the phone, radio communication, permanent supervision). The following risk matrix⁸ can be used to determine whether lone work is permissible and what measures should be taken.

Laws and ordinances do not conclusively specify safety rules for individual areas of occupational safety. In the realisation of work, risks, the time of day, weather conditions, as well as the subject of the lone work must much rather be considered.

Depending on conditions on site (e.g. roof pitch, distance to fall barriers) and weather conditions, as well as the nature of the work and any specific hazards associated with it (e.g., elevation work, electrical work), an additional risk assessment may be required.

A final decision can only be made with a site-specific assessment of the requirements (see Checklist for Lone Work in the annex).

Lone work is generally not permitted if the use of PPE is required.

⁶ www.suva.ch/asa5, BauAV and *Risk Assessment Checklist in the annex*.

⁷ VUV Art. 5

⁸ Suva: *Lone work can be dangerous*. www.suva.ch/44094.D

Risk assessment matrix

Probability	A Almost certain	4	3a	2	1	1
	B Occasionally	4	3a	2	2	1
	C Possible	4	3a	3b	2	2
	D Unlikely	4	3a	3b	3b	3b
	E Rare	4	4	4	4	3b
			V Low	IV Minor	III Moderate	II Major
Severity						

Probability

- A) Almost certain greater than once a month
- B) Occasionally once a year to once a month
- C) Possible once every 5 years to once a year
- D) Unlikely once in 20 years to once in 5 years
- E) Rare impossible once every 100 years to once every 20 years

Severity

- V) Low slight injury without loss of work
- IV) Minor injury with absence from work, without permanent damage to health
- III) Moderate medium injury with permanent damage to health
- II) Major serious injury with permanent damage to health
- I) Sever injury may be fatal if first aid is not provided immediately

Depending on the risk potential (analogous to the assessment matrix), the protective measure is fulfilled by one of the following measures:

1 Working alone is prohibited

3 Periodic monitoring
(3a max. 8 hours, 3b max. 4 hours)

2 Continuous voluntary monitoring

4 Working alone is allowed

4.4.2 *Night work*

Night-time work at telecommunications sites may be carried out subject to the following conditions and subject to a permit issued by the canton or the requirements under Art. 4 of the Labour Ordinance 2 (ArGV 2):

- When working during the night, adequate lighting must be ensured (e.g. use of spotlights or headlights).
- In rough terrain, if there is no possibility of an emergency response with a helicopter (poor visibility, wind, etc.), there must at least be one evacuation route accessible (cable car, railway, street/road).
- At least three employees must be scheduled to carry out work on towers/masts during the night (at least two trained employees equipped with personal protective equipment against falls from a height (PPE) plus one accompanying person). Clear and secure communication with the accompanying person must be ensured.

4.4.3 *Natural hazards*

Before every deployment, the employee or, when working in teams, the work supervisor, must collect information on the current weather and avalanche conditions.

Avalanche hazard

In the event of an avalanche hazard, an assessment by an expert (e.g. alpine guide) is required. The station may only be accessed when accompanied by an instructed person/alpine guide familiar with the local circumstances or via helicopter. All administrative instructions must be followed (e.g. road blocks because of avalanche dispersion).

Thunderstorms/storms

In the event of imminent severe weather (thunderstorms/storms), all scheduled work on masts/pylons must be called off or a deployment immediately aborted.

4.4.4 *Helicopter or drone flights*

For flight operations, the flight crew's instructions must be followed.

4.4.5 *Falls of persons and falling objects*

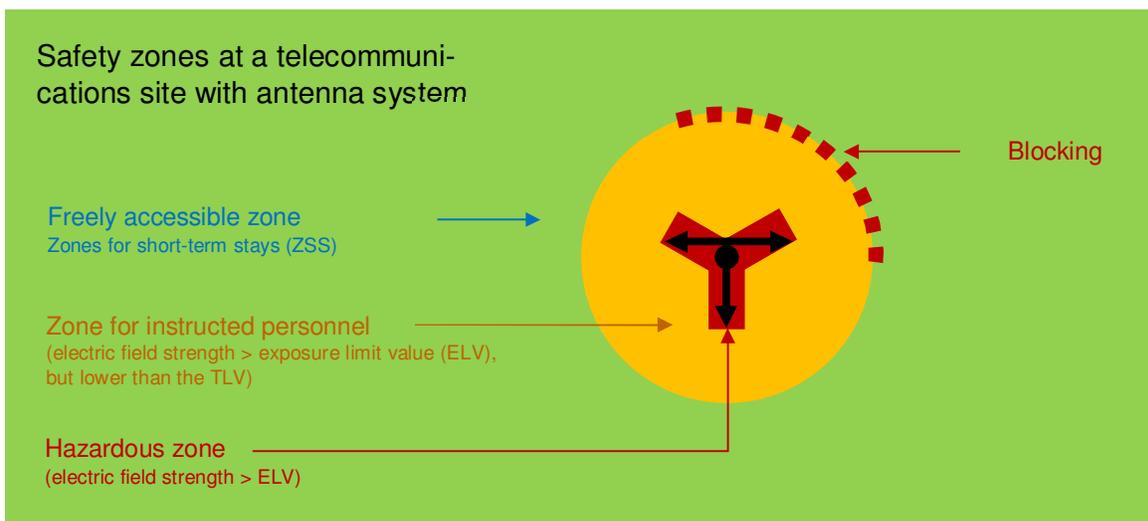
When working on masts/pylons and roofs, there is a high risk of falls, as well as a risk of being hit by falling objects. For this reason, there is a general obligation to wear a helmet in zones that pose a risk of falling objects (e.g. tool, material, ice). Hazardous zones must be cordoned off and/or secured by traffic guards.

When working at heights (see Chapter 7), as well as if there are accesses with climbing protection or other personal protective equipment (e.g. safety line, anchor points, fall arrester), the use of certified and checked PPE is obligatory, in addition to the obligation to wear a helmet (for PPE requirements, see Chapter 11)

4.4.6 Non-ionising radiation

In the “trained personnel area”, non-ionising radiation can affect the health of individuals if a person is within a short distance of the source of radiation for long periods of time. This risk can be mitigated or reduced through technical, organisational and personal measures.

- The site should be planned so that, insofar as possible, persons cannot access the hazardous zone.
- There are various hazardous zones at every site, and these must be communicated clearly to users. The user is obligated to observe the safety distances at all times.



As concerns electromagnetic fields at the workplace, limit values are defined in the Suva publication “Limit values at the workplace”⁹.

⁹ Suva: *Limit values at the workplace*. www.suva.ch/1903.D

Definition	Safety measures
<p>Dwelling in zones for short-term stays (ZSS) Zones for short-term stays are areas accessible to all persons (e.g. flat roofs that are equipped with transmission facilities). The assessment must be carried out as part of the NIR calculation. In general principle, the calculation is to be carried out for a height of 1.5 m above the accessible surface, or for areas where the service personnel of building service facilities (e.g. lift technicians, chimney sweeps) can dwell.¹⁰</p>	<p>Technology: none</p> <p>Organisation: none</p> <p>Personnel: none</p>
<p>Zone for instructed personnel (electric field strength > exposure limit value (ELV)¹¹, but lower than the TLV): Only instructed experts (technical staff carrying out works on the antenna system) are allowed to dwell in this zone.</p>	<p>Technology: Access blocking (e.g. fence, guardrails) to ensure that the hazardous zone cannot be accessed inadvertently. Definition of site by the radio planner.</p> <p>Organisation: Optical signalisation at the location where the hazardous zone is cordoned off with the combination sign "no access", "Attention: non-ionising radiation", and "Contact details in the event of questions" (see Chapter 12.3)¹²</p> <p>Personnel: Training of persons who are allowed to stay in this zone (instructed person)</p>
<p>Hazardous zone (electric field strength > TLV)¹³: Access strictly not allowed while the source of radiation is active.</p>	<p>Technology: switch off the source of radiation if necessary</p> <p>Organisation: no signalisation required</p> <p>Personnel: Training of persons who are allowed to stay in this zone (instructed person)</p>

¹⁰: FOEN: Mobile Communications and WLL Base Stations. Implementation recommendation on NIR. Chapter 2.2.2

¹¹ Ordinance on the Protection against Non-ionising Radiation (SR 814.710)

¹² When climbing on pitched roofs (roof slope >25°), this marking can be affixed to the roof exit. Masts/pylons which, in acc. with the NISV (Swiss Ordinance on Non-ionising Radiation), do not pose a threat to persons standing at the base do not require any marking.

¹³ Swisscom AG (Innovation Competence Center): *Safety distances for work on transmission facilities*. Scientific documentation on the transfer of reference values onto base limit values (W/kg), 21.05.2008

Safety distances in the “zone for instructed personnel”

The minimum safety distances specified below are based on the “Threshold Limit Value (at the workplace)” (TLV) of Suva¹⁴. These limits protect instructed persons against the adverse health effects of high-frequency fields at their workplace.

Persons with an implanted pacemaker or other medical assistive devices, or those who wear such devices outside and on their body, must report to their supervisor before any deployments on or near transmission facilities to clarify matters surrounding possible impairments of medical assistive devices under the given working conditions.

The safety distances apply to mobile communications antennas, radiocommunications networks for public authorities (e.g. Tetrapol/Polycom), and private radiocommunications antennas (e.g. SBB GSM-R).

In the case of **broadcast antennas** (e.g. Swisscom Broadcast, radio antennas) as well as **unknown radiocommunications services**, the principal of construction and maintenance activities has to give additional instructions. These become apparent from the individual site access descriptions.

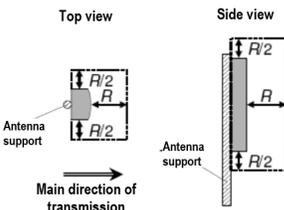
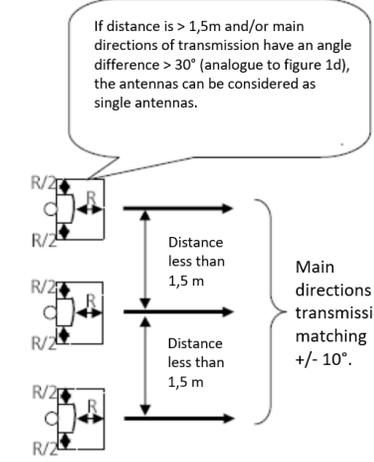
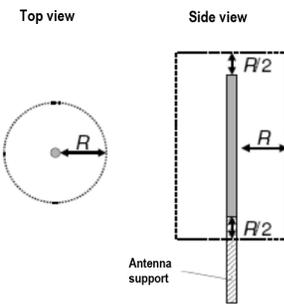
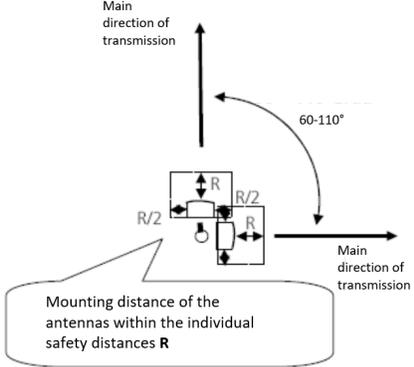
Directional radio systems that feed signals to mobile communications systems generally operate with transmission powers below 1 watt. This transmission power is distributed over the antenna surface in question (parabolic mirror), consequently achieving power transmission densities in the transmission direction of less than 50 watt/m², or field strengths of less than 137 V/m. Staying in front of such directional radio systems poses no threat to health. However, it does impair operations.

Aspects regarding the on-site risk assessment for transmission facilities.

- **All antennas must** be handled as potential transmission antennas if no further details are known.
- Dwelling in the immediate vicinity of transmission antennas should always be **restricted to the shortest possible period**, above all in the main transmission direction.
- The safety distances listed in the table below are to be observed **in front of the antennas**.
- Unless specified otherwise, half of the safety distance is to be observed **to the sides of the antennas**.
- The safety distances apply to **all body parts**, above all the head and neck.

¹⁴ Suva: *Limit values at the workplace*. www.suva.ch/1903.D

Appropriate minimum safety distances for antennas (with the exception of radio broadcasting antennas):

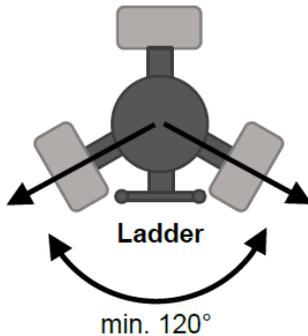
Antenna type	Minimum safety distance R to the antenna core in the main direction of transmission	Minimum safety distance R to the antenna core in the main direction of transmission, in acc. with the listed ancillary conditions
		
		
Antennas of mobile communications and Tetrapol (Polycom) systems		
Macro cells with ERP > 6 W ERP	150 cm	200 cm
Other types of antennas		
Micro cells with ERP < 6 W (dipole and patch antennas)	20 cm	30 cm

¹⁵ Also applies to so-called twin beam antennas, which are used to split sectors. This results in locations with more than 3 sectors whose main beam directions are only 60° apart.

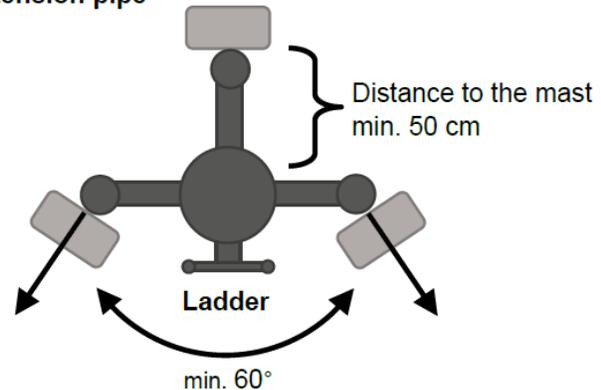
Comment:

The prescribed minimum distances can be observed when working on (antenna) masts/pylons, if the following geometric assembly ratios are given (the angles apply to the relevant transmission directions) in accordance with the following graphical representation (with/without mounted extension pipe)

Without extension pipe



With extension pipe



Climbing through the “hazardous zone”

Climbing past and passing in front of/next to antennas:

- In front of and next to certain types of antenna, persons can climb past/pass under observance of a maximum dwell time and minimum distance to the antennas of 10 cm. The specified dwell times are underpinned by the definition of the base limit values, whereby higher exposure over a short period is permissible when averaging out the exposure over 6 minutes.
- The dwell time is based on time units of 6 minutes each! In other words, within a time unit of 6 minutes, the overall dwell time in front of one or several antennas may not exceed the specified dwell times.
- If, when climbing past/passing in front of one or more antennas, the maximum dwell time is reached, the employer must wait for the full 6 minutes to pass before climbing past/passing in front of another antenna!
- The maximum dwell time can be made up of the dwell time before one or several antennas. The maximum dwell time amounts to 1 minute.

Adaptive 5G antennas in the 3.5 GHz band

For the adaptive antennas currently used for 5G, operating in the 3.5 GHz frequency band, the guidelines in place guarantee safety on the mast. A short summary of reasons is given below:

- The transmission powers specified by the Swiss providers in the construction permits result from the strict precautionary exposure limits of the NISV. On existing antenna sites, the 5G antennas must meet the site limit value (typically 5 V/m) taken together with the older technologies (3G and 4G). Consequently, there is little transmission power left available for 5G. If more transmission power is allocated to 5G, the transmission power of the older technologies will be reduced.
- The absorption behaviour of the frequencies around 3.5 GHz currently used for 5G is comparable to that of older mobile communication technologies. Frequencies higher than 24 GHz (known as millimetre waves), which are absorbed almost exclusively by the skin, are not being used in Switzerland for the time being.
- The deployed adaptive antennas reduce the average transmission power of the system compared to a 4G antenna, with the signals actually being transmitted in the direction where they are used as well. Model calculations and measurements on individual adaptive antennas demonstrate that only a fraction of the theoretical maximum transmission power value is actually transmitted in most cases¹⁶ Even with heavy utilisation and different usage scenarios, when averaged over a period of 6 minutes, transmission powers never exceed a fourth of the theoretical maximum.
- In line with FOEN specifications, worst-case assumptions currently also apply to 5G systems¹⁷. Even if the adaptivity of the system is taken into consideration during the later exposure assessment, the decisive 6-minute average value would still have to comply with the strict NISV limit value. With the 6-minute average value being relevant for occupational safety limit values, this does not have any influence in this case. Permanent monitoring of average and maximum values can be ensured with relevant systems technology algorithms.

¹⁶ B. Thors, A. Furuskär, D. Colombi, C. Törnevik: *Time-Averaged Realistic Maximum Power Levels for the Assessment of Radio Frequency Exposure for 5G Radio Base Stations Using Massive MIMO*. IEEE Access. Vol. 5, pp. 19711–19719, 2017.

¹⁷ FOEN: *Information on adaptive antennas and 5G (approval and measurement)*. 31.01.2020
<https://www.bafu.admin.ch/bafu/en/home.html>

Use of field strength alarm systems

Field strength alarm systems are available on the market. These measure field strengths, are worn on the body, and send alarm signals when certain field strengths are measured that fall outside occupational safety limit values. On general principle, these measurement devices are not required when the provisions of this guideline are observed. Such measurement devices can, however, provide additional information on field strengths on the mast, certainly reducing the perceived risk. It should be pointed out that these measurement devices come with a great uncertainty of measurement and – depending on the settings – can already trigger at safe field strengths.

Requirement of shutting down

Depending on the on-site assessment, it might be necessary to briefly shut down antennas. The points of contact listed in Chapter 1.3 are responsible for this.

In broadcast systems, a lead time of at least 5 working days must be observed for scheduled shutdown interruptions, and the shutdown has to be confirmed by the customer. Exact interruption times must be specified and premium times considered.

4.4.7 Safety distances for broadcast antennas

With broadcast antennas (e.g. radio, television), detailed specifications are generally available from the operator in question, with the effective transmission power being taken into consideration. The antennas can generally only be accessed from the rear side.

Contact address: Swisscom Broadcast OCC 0800 817 620 (request dispatcher)

4.4.8 Work in cable manholes and cable vaults

Manholes, shafts, and channels usually present a dangerous working atmosphere, with hazards of poisoning, explosion, and suffocation. Relevant precautionary measures must be taken.¹⁸

When entering manholes, the working area is to be blocked off, designed, or marked such that there is no risk of falling and employees are protected from the hazards of road traffic. Signalisation in traffic areas must meet the statutory regulations.¹⁹

¹⁸ Suva: *Safe entering and working in manholes, trenches, and channels*. www.suva.ch/44062.D

¹⁹ Signalisation Ordinance (SSV)

4.4.9 Electricity

General rules

Persons must be protected from direct and indirect contact with electricity at all locations. Live parts must not be within the reach of non-expert persons (e.g., protective covers, insulation).

This also applies to electrical components, that are normally sufficiently protected, but become unprotected during maintenance work on non-electrical components.

When the power supply to the site is switched off, it must be assumed that there is still power from the battery.

Basic protection (protection against direct contact) and fault protection (protection against indirect contact) must be provided everywhere. Appliances and installations must be constructed in such a way that they do not present a hazard to persons, animals or property during normal operation or in the anticipated event of an incident.²⁰

The 5+5 vital rules for dealing with electricity must be followed.²¹

This also applies to low voltage – high-voltage power systems (AC voltage > 50V; DC voltage > 120V or > 2A).

Employees of telecommunications companies who are in or near power installations of energy supply companies (“Energieversorgungsunternehmen”, EVU) for access to their installations must consistently comply with and implement their specifications (Ordinance on Heavy Current, SN EN 50110, as well as, e.g., Swissgrid ZHSE-80-016²² and ZHSE-80-067)²³.

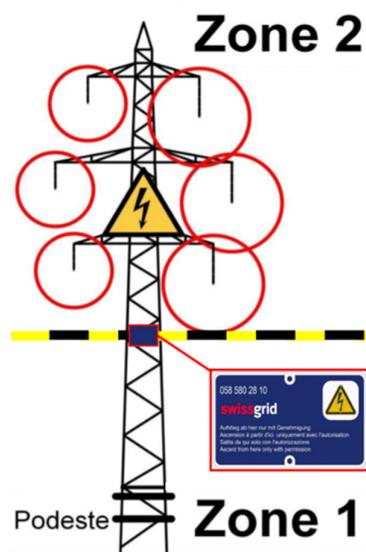
Pylons

High-voltage overhead lines pose an increased risk, as arcs are possible even when approaching them without making contact, and these can cause life-threatening injuries to persons.

If work such as inspections, visual inspections, maintenance and repairs are carried out on telecommunications equipment on high-voltage overhead lines, this work must be notified in advance to the relevant EVU and approved by the EVU (see Access Applications and EVU Notification).

Depending on the EVU, the location of the telecommunications site and the work planned, the approval will be provided orally, by e-mail or in writing. Additional measures may be required, e.g. carrying out work under the supervision of an EVU representative. Zoning (ZHSE-80-067):

Zone 1: below the yellow/black line, Zone 2: above the yellow/black line



²⁰ ESTI: Instruction 407; *Work on or near electrical systems*. www.esti.admin.ch

²¹ Suva: *5 + 5 vital rules when handling electricity*. www.suva.ch/84042.d

²² Swissgrid: Manual ZHSE-80-016. *Regulations and standards on the protection of people and the environment when working at, on, or in the vicinity of Swissgrid AG facilities*. www.swissgrid.ch

²³ Swissgrid: Guideline. ZSHE-80-067. *Access for telecommunications companies to their systems in/on high-current facilities of utilities*. www.swissgrid.ch

Electromagnetic fields

Binding limit values are defined for employees exposed to electromagnetic field hazards.²⁴ Suitable protective measures must be taken:

Technical measure:

- Voltage disconnection (e.g. high-voltage systems)
- Observing safety distances (e.g. to high-voltage systems)

Organisational measures:

- Access control
- Regular training (e.g. EVU training for "Instructed Persons")

4.4.10 Fibre optical cables

Fibre-optic cables for the communication of transported visible/invisible rays of light. The light can escape from open outlets, ends of fibre, and damaged or broken fibre-optic cables.

When working on fibre-optic cables:

- the cables must first be disconnected and secured.
- a check with a power meter must be carried out.

The following rules must be followed when working on fibre-optic cables:

- Always assume that the optical fibres are in use;
- Refrain from using a microscope to check whether optical fibres are in use;
- Do not touch the ends of the optical fibres;
- Nobody is entitled to declare to third parties that the "Laser is out of operation";

4.4.11 Use of manual and electrical tools

Tools must continuously be checked and maintained and replaced if necessary²⁵. Only operate electrical devices via sockets with a residual current device (RCD). In case of doubt, insert an adapter with a residual current device (RCD) from your own toolbox.

Manual and electrical tools come with the following hazards:

- components with dangerous surfaces (e.g. sharp edges, cutting surfaces)
- short-circuits, arcs because of overloading, etc.
- defective tool quality
- improper use
- insufficient inspection, failure to service

4.4.12 Hazardous substances

Chemicals, flammable substances, and other hazardous substances can be harmful to health through bodily absorption (e.g. liquid, smoke, etc.); explode, resulting in serious injury; and have harmful effects on the environment because of improper use. Marking measures and

²⁴ Suva: *Limit values at the workplace*. www.suva.ch/1903.D

²⁵ SNR 462638 Repeat inspection and inspection after repair of electrical equipment (from 2023 new SNG 482638)

protective measures must always be observed when handling hazardous substances. Hazardous materials that exceed the legally permissible small quantity may only be stored in designated receptacles and quantities in consultation with the responsible safety/hazardous goods officer.

On telecommunications sites, for example, there are coolants in cooling systems and acids in batteries.

4.4.13 Work near/on roads and road tunnels

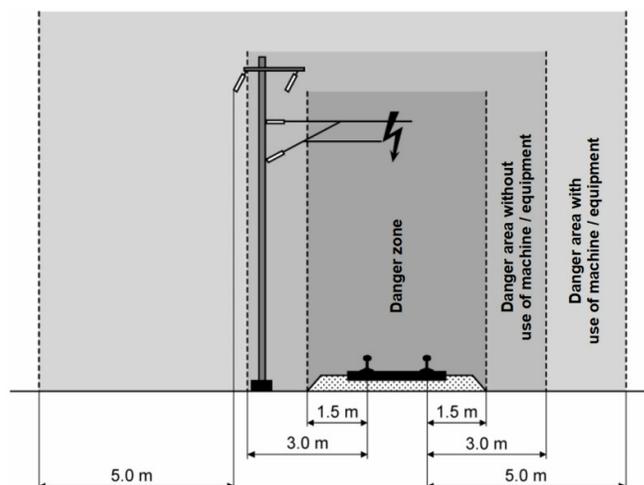
For work in road tunnels, the rules set out by Astra²⁶ and the relevant civil engineering authorities (tunnel operator) apply. The prescribed PPE must always be worn.²⁷

The tunnel operator must be involved in scheduling the work. Where necessary, it will provide the appropriate traffic signalling.

4.4.14 Working on and near (train) tracks

The track area²⁸ (outer track + 5.0 m) may never be accessed without self-protection training (SstB/SstA). This also applies to access routes, non-public parking spaces, and short-term stays. Exceptions can only be made with a "Sicherheitsdispositiv" (Safety Certificate, at a charge) of the competent infrastructure operator (ISO of the rail facilities).

Free access to the track area with self-protection is limited to two trained persons without mechanical devices. Work with mechanical devices or in larger groups is only allowed with a "Sicherheitsdispositiv" ((SBB) Safety Certificate).



The following PPE must always be worn in the hazardous zone²⁹:

- Pants and jacket in accordance with EN ISO 20471, Class 3
- Safety boots S3 (high)
- Helmet (orange, never white or red)
- Depending on the hazards, additional PPE such as protective goggles, hearing protection, dust masks (ready on hand at the workplace)

In the rail and track power system zones (hazard, vicinity, and extension zones), no conductive long objects (e.g. ladders, rods, machines, etc.) may be used (risk of short-circuit and electrical arcs)³⁰.

²⁶ Federal Office for Roads, Astra: www.astra.admin.ch

²⁷ Suva: *Protective clothing for work in the vicinity of public roads*. www.suva.ch/33076.D

²⁸ VöV: R RTE 20100 *Safety when working in the track area*, Art. 4.2 et seqq. www.voev.ch

²⁹ SBB: *Instructions. Obligation to wear personal protective equipment*. (K260.0, K260.1, and I-10007)

³⁰ VöV: R RTE 20600 *Safety when working in rail power system areas*, Art. 7.4.3.1³¹ Suva: *Protocol for internal company accident investigations*. www.suva.ch/66100/1.D

4.4.15 Railway tunnel

Work in railroad tunnels may only be carried out after consultation with the infrastructure operator (ISO) of the rail facility. Telecommunications providers have no access to most railway tunnels. In these cases, the ISO of the rail facility is responsible for construction, operation, and maintenance (contractually governed).

4.5 Emergency planning

4.5.1 Instruction

Emergencies can never be fully excluded. The employer (client) is responsible for employees and all persons under their supervision observing the applicable requirements, while receiving regular instructions on conduct in the event of emergencies.

Instruction should at least cover the following:

- Hazards and risks at telecommunications sites
- Measures to prevent/minimise risks (protective measures)
- Emergency plans
- Important emergency numbers

4.5.2 Rules of conduct in case of accidents and near-accidents

The persons involved in the (near-)accident and their supervisor create an accident statement form to be submitted to their own security officer, which is then forwarded to the safety officer of the facility owner. (Provider addresses, see Chapter 1.3)

The accident is investigated by the responsible security officer. Any necessary measures are initiated jointly.

Accident with personal injury:

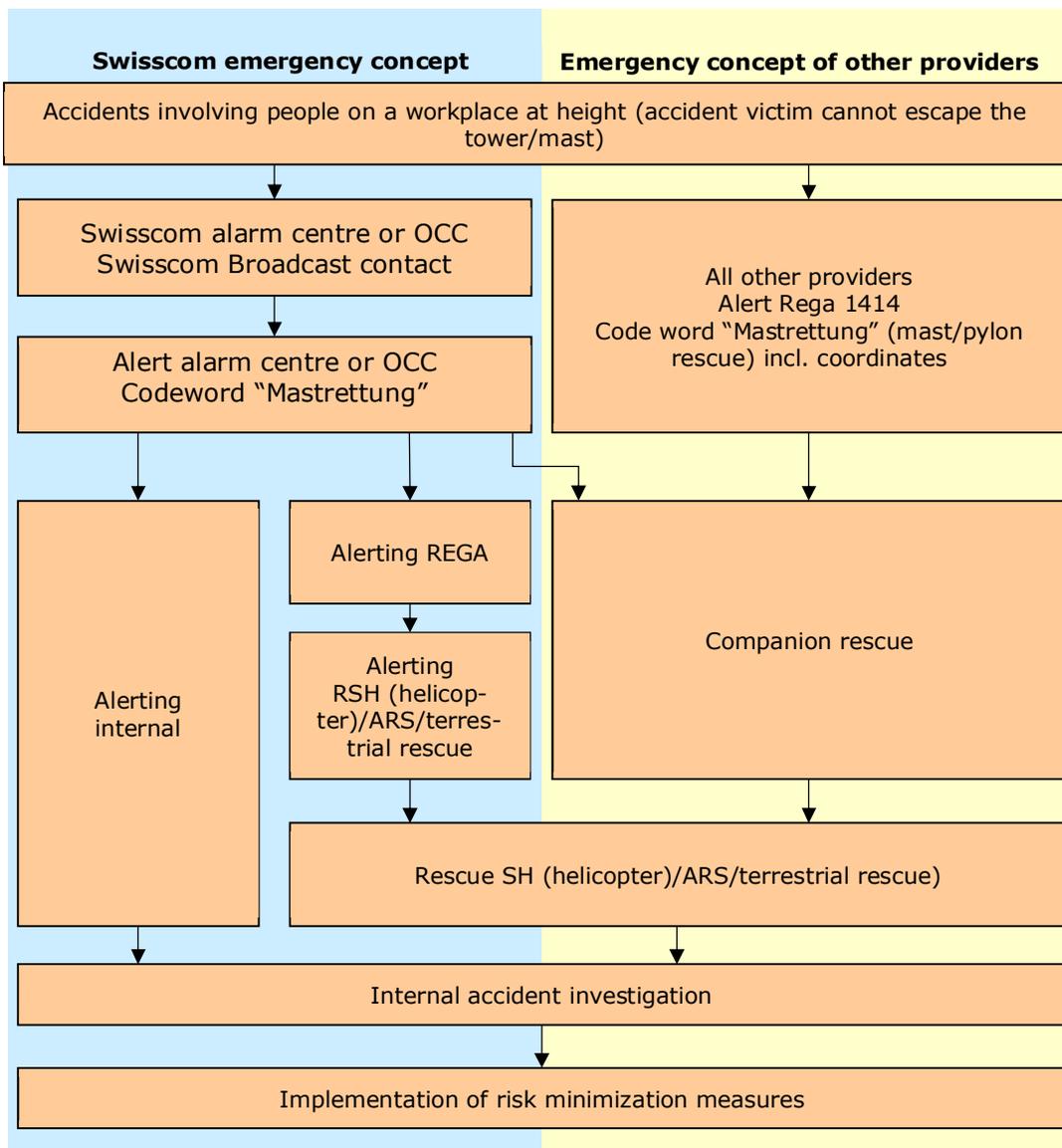
- Call for help (general: **Emergency phone no.: 112**; accident on a workplace at height **Rega Tel. 1414**) or in line with the special alerting concept
- Secure accident sites, be mindful of protecting yourself
- Rescue the accident victim(s)
- Report the incident to the facility owner's/management's safety officer and the client/supervisor within 24 hours
- Complete an accident report³¹ and send it to the facility owner's safety officer within a reasonable timeframe

Accident without personal injury or near-accident:

- Secure the accident site
- Report the incident to the facility owner and supervisor within 24 hours
- Complete an accident report³¹ and send it to the facility owner's safety officer within a reasonable timeframe

³¹ Suva: *Protocol for internal company accident investigations*. www.suva.ch/66100/1.D

4.5.3 Alerting in the event of accidents involving people on a workplace at height



4.5.4 Rescue at height

Masts may only be climbed by people trained and equipped with PPE. The presence of a second person with the same training and equipment is a prerequisite. Both persons must be able to immediately provide aid after an event. With mast work, this means that both persons must be able to rescue their companion using the rescue device.

The work supervisor is responsible for ensuring that a rappelling and rescue device are available for rescue with every mast/pylon climb.

4.6 Site block

Sites with identified potential hazards, which might lead to irreparable and/or permanent damage or even the death of an employee, must be blocked immediately. Any site user can block the site. Blocks are to be marked on-site with the "Site blocked" sign (see Chapter 10.2). The hazardous area must additionally be marked with suitable means or access prevented.

The responsible operator must be notified immediately. At the latest 24 hours after the block, the "Checklist Site Block" (see Annex) must be delivered to the operator, fully filled in. Subsequent defect elimination is the responsibility of the site operator/owner. Communication to co-users must be ensured

4.7 Operation and servicing

With servicing, the telecommunications provider/facility owner ensures that the site meets the statutory OHS requirements over its entire lifecycle. Servicing comprises:

- Inspection: Assessing the current situation and comparing it to the target state (checking, recording)
- Maintenance: Measures to retain the current state (cleaning, care, control)
- Repair: Restoring the target state (replacing, improving)

The maintenance and upkeep work defined by the manufacturer in the maintenance and operation documentation must be correctly and regularly carried out. Sites or components for which no manufacturer specifications are available should be serviced and maintained in acc. with the state of the art.

After special events that might impair safety (e.g. accident, storm), an additional site inspection is required.

Servicing and maintenance in the field of occupational safety and health must be documented in writing (logbook).

Communication to co-users must be ensured.

4.8 Events that damage the site

The operator/owner ensures that sites that are exposed to damaging effects (e.g. corrosion) are regularly inspected and repaired on top of the normal upkeep.

5 Training

5.1 Initial situation

The employer is responsible for ensuring that employees who carry out work are correctly instructed and qualified with demonstrable education/training.³²

Occupational safety training covers at least the following:

- Hazards at the workplace and hazard reduction measures
- Correct use of PPE and conduct in an emergency

New employees must receive relevant instructions and be trained for their tasks before beginning work. Instructions must be repeated at regular intervals. To ensure transparency, training/education and instructions must be documented (who, what, when, where). On request of the competent telecommunications provider and/or client, the training/education activity must be evidenced.

5.2 Training modules

Required training for telecommunications experts is divided into various training modules, in line with the hazards at the workplace. In case of doubt, the person responsible for occupational safety for the operator in question must determine which additional module must be completed.

	First-aid training	Occupational safety in telecommunications	Climbing and rescuing with life-saving equipment	Installation of fall protection systems	Utilities ("EVU") training ("instructed person")
Validity (years)	2		2		5 ³³
Site acquisition	○	●	-	-	○
Site planning	○	●	-	-	○
Installation before commissioning <u>without</u> PPE	○	○	-	-	○
Installation before commissioning <u>with</u> PPE	●	○	●	-	○
Installation of fall protection systems	●	○	●	●	○
Operation and installation <u>without</u> PSAgA	○	●	-	-	○
Operation and installation <u>with</u> PSAgA	●	●	●	-	○
Site visits up to 2 m / 3 m* high (accompanied)	○	-	-	-	-

* see chapter 7.1

Caption:

- Training mandatory
- Training recommended
- Training not required

³² VUV Art. 6, 7, 8

³³ Validity refers to Guideline ZSHE80-067 and the utility listed in this document.

Persons without relevant training/education may not work at a telecommunications site. When the site operator or client carries out spot checks, working persons must be able to provide evidence of their training (e.g. FCOS Personal Safety Passport).

The training modules can be taken from a training provider of choice or under one's own direction (exception: first aid and utilities ("EVU") training). Costs are borne by the employer or relative contractual agreements are made.

5.2.1 *First-aid training*

Comprises recognised first aid training (e.g. BLS-AED-SRC, TopTen Training), with biennial refresher course. IVR (Swiss Interassociation for Rescue Services) certification is not required.

5.2.2 *OS in telecommunications*

Standard instruction in acc. with this document. It is recommended that employees are regularly sensitised on OHS topics.

5.2.3 *Assembly of PPE*

Comprises product-specific training on the assembly/installation of climbing protection and anchor devices for PPE. Training is only valid for the product/system specified on the course certificate. The training course must be given by a party authorised by the product manufacturer, in line with the specifications of the latter.

5.2.4 *Rescuing and "climbing"*

Comprises training on rescue and PPE techniques on sites with climbing routes with fixed fall arrester.

5.2.5 *Utilities ("EVU") training ("instructed person")*

When telecommunications companies access their system in/on heavy-current facilities, the stipulations of the utility in question must be observed. Access authorisation is to be requested either over the telephone or in writing, depending on the activity and zone.

In accordance with the Ordinance on Electrical High-voltage Equipment³⁴, persons who have not received the proper instruction are not allowed to access high-voltage systems (e.g. utilities substation, high-voltage transmission towers). Uninstructed persons are only allowed free access to utilities sites when accompanied by an "instructed person".

The utility in question will organise the training for instructed persons. Access rights are limited to the workplace in question and the direct access route. The validity of such rights is determined for 5 years by the following utilities.

Swissgrid, Axpo, BKW, ewz, CKW and Repower have developed a common guideline, ZHSE-80-067³⁵, setting out regulations in the field. Only people who have completed the required education and training are permitted access.

³⁴ High-voltage Ordinance (SR 734.2), Art. 11 and 12

³⁵ Swissgrid: ZHSE-80-067. Zutritt für Telekommunikationsunternehmen zu ihren Anlagen in/an Starkstromanlagen von Energieversorgungsunternehmen. www.swissgrid.ch

6 Environment, Access, Site

6.1 Environment

Installations must be planned and constructed in such a manner that their operation does not pose a threat to persons (e.g. non-ionising radiation).

6.2 Access

6.2.1 *Basic principles*

If possible, access to the site is to be selected such that no special work equipment is required to guarantee occupational safety. Access is to be documented such that those unfamiliar with the area are informed of special hazards.

There should be safe access via public streets and roads throughout the year. Hazards and safety measures should be documented in the site database for sites without guaranteed safe access at all times.

6.2.2 *Footpaths on the site*

Footpaths should be created such that no technical (e.g. guardrails), organisational (e.g. special training), and/or personal protective (e.g. PPE) measures are required whenever possible.

Garden slabs can be used to mark the footpath (and protect the cladding of flat roofs). Obstacles (e.g. lines) are to be prevented or covered (e.g. corrugated plate) to prevent tripping hazards.

A safety distance of 2.0 m must always be observed from any roof surfaces that are not safe against falling through (e.g. lighting fixtures or fibre-cement plates, etc.) and falling edges.

If access must be secured with laying snow as well, special attention must be paid to this condition. Hazardous zones are to be demarcated or marked. Garden slab footpaths are then hidden beneath the snow.

6.3 Site

6.3.1 *Reliability of safety devices*

Durable materials are to be used on the site, or materials are to be protected against harmful influences.

6.3.2 *Zone fencing*

Zones of sites that must be protected against unintentional access for safety reasons (e.g. non-ionising radiation) are to be cordoned-off using zone fencing (e.g. yellow-and-black chain). Hazardous zones must be marked accordingly.

7 Workplaces at height

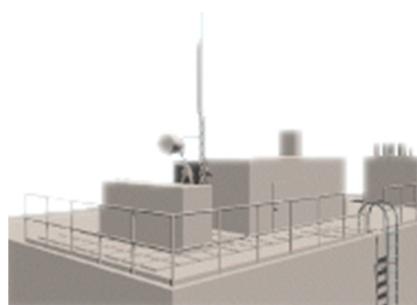
7.1 Measures against falls

Access to workplaces at heights must be safe. Whenever necessary, access routes must be established and spots with a falling hazard secured, incl. any roof surfaces that are not safe against falling through, light shafts, etc.

As a minimum, flat roofs shall be equipped with attachments to which people can attach their PPE when they need to move/stay closer than **2 m to unsecured edges** (areas with a high risk of falling) and the possible **fall height is ≥ 2 m**. For work involving < 2 working days, work up to a height of 3 m is permitted. For work on sloped roofs (roof pitch $\geq 10^\circ$), measures to prevent falls must always be taken. For work on roofs involving a work volume of > 2 working days and a fall height of > 2 m, collective protective measures (e.g., side protection, scaffolding, zone shielding) are required.³⁶

The hazardous zone of workplaces and access paths starts from a distance of less than 2 m to the falling edge. These zones must be secured accordingly (e.g. with a guardrail, balustrade).

Working platforms (telecommunications equipment) with fall heights > 0.5 m must be protected using suitable measures (e.g. guardrails).



Fall hazards can also be situated outside of hazardous zones.

- Material condition of covering material;
- Tripping hazards (e.g. cable ducts, lines);
- Insufficient lighting;
- Insufficient static load-bearing capacity of fall arresters;
- Weather conditions;
- Soiling.

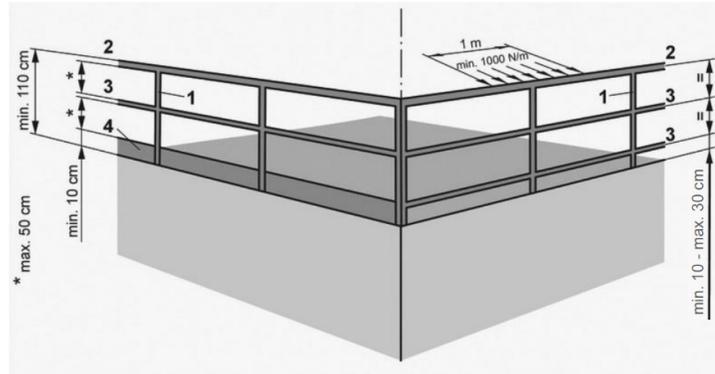
³⁶ For details, see the BauAV (Ordinance on the Protection of Health and the Safety of Workers in Construction)

7.2 Guardrails

7.2.1 Guardrails in new constructions

Railings, steel structures, fences, parts of machinery and equipment that serve as barriers must be at least 1.0 m high. If people are located higher up than the barrier, the guardrail shall also be higher accordingly. Existing guardrails below 0.95 m in height must be upgraded with to a higher level when new installations are built.

A guardrail generally consists of posts (1), hand rail (2), and knee rail (3). A foot rail (4) with a height of at least 100 mm must be installed if objects can fall from the route through the guardrails onto lower levels, possibly resulting in injury or damage.



The distances between the hand rail, knee rail(s), and foot rail may not exceed 500 mm. If vertical rods are used instead of knee rails, the horizontal distance may not exceed 180 mm.

If the hand rail is interrupted, the open space between two railing segments may not be smaller than 5 cm and no larger than 12 cm. Rail openings with a fall hazard are to be secured with a self-closing door. The door must meet the same requirements as the guardrail and open in the walking direction.

The centre-to-centre distance between 2 poles must be limited to 1.5 m whenever possible; alternatively, static dimensioning must be carried out for both structural safety and serviceability. The requirements of standard SN EN ISO 14122-3 apply. Horizontal forces of $f_k = 1.0$ kN/m on the hand rail must be assumed.³⁷

Guardrails in publicly accessible areas, must meet the (local) construction law provisions.³⁸

Guardrails must be regularly inspected and serviced, as part of maintenance or following manufacturer specifications.

7.2.2 Side protection on existing systems

For existing installations, a side protection is required according to Construction Work Ordinance (BauAV Art. 22) with a guardrail, intermediate rail and board being sufficient.³⁹

³⁷ Suva: *Guard rails on permanent accesses to machinery*. www.suva.ch/44006.D

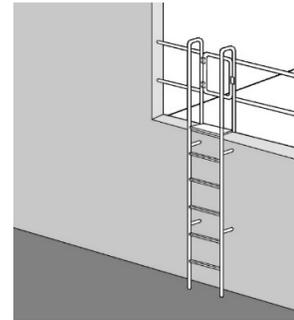
³⁸ Standard: SIA 385; cf. Swiss Council for Accident Prevention (BFU) specialist brochure. *Guard rails and Balustrades*

³⁹ Suva: *Side protection – requirements on structural elements*. www.suva.ch/33017.D

7.3 Ladders

7.3.1 Ladders are used as access routes

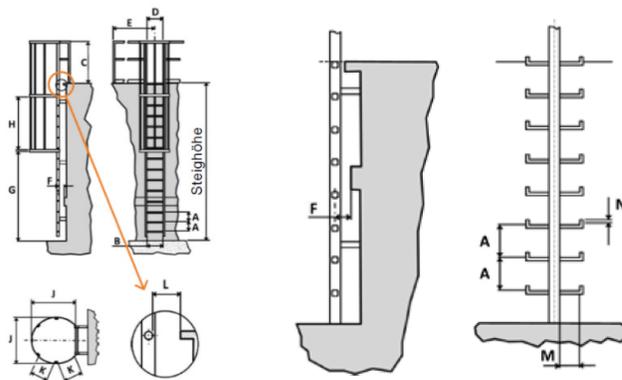
Ladders are fundamentally only suitable as routes between different levels, and not as workplaces (exception: ladders with a safety device). Fixed ladders are to be favoured over portable ladders.



7.3.2 Fixed ladders

When installing fixed ladders, care must be taken that hazardous zones cannot be entered without authorisation by climbing the ladder (e.g. hazardous zone of high-voltage cables). Rungs should be equipped with anti-slip properties. Ladder rails (holding stiles) must extend for at least 1.0 m beyond the exit at the upper edge. The conditions of entry and exit surfaces must prevent persons from slipping (e.g. corrugated plate). New fixed ladders on installations must have a fall arrester or safety cage if the fall height exceeds 3.0 m, or exceeds 5.0 m in manholes.

Ladders must be inspected and serviced as either part of regular maintenance or in acc. with manufacturer specifications. The required load-bearing capacity of fixed ladders, their anchoring, and permissible deformations are governed by the specific standards⁴⁰.



The following functional dimensions are specified for fixed ladders with a safety cage, centre rail or manhole ladder⁴¹.

Functional dimensions for fixed ladders

to machinery

	A	B	C	D	E	F	G	H	J	K	L	M	N
min. (mm)	225	400	1100	500	1500	200	2200		650			150	20
max. (mm)	300	600		700			3000	1500	800	300	75	250	

Functional dimensions for fixed manhole ladders

	A	B	C	D	E	F	G	H	J	K	L	M	N
min. (mm)	225	300	100			150						150	20
max. (mm)	300												

⁴⁰ SN EN ISO 14122-4 *Safety of machinery – Permanent means of access to machinery – Fixed ladders*, SN EN 14396 *Fixed ladders for manholes*

⁴¹ Suva: *Fixed ladders*. www.suva.ch/67055.D

Protection against unauthorised climbing

If unauthorised persons have access to fixed ladders (publicly accessible), technical measures must be taken to prevent persons from climbing the ladder. There is no need to additionally secure masts/pylons in areas that are inaccessible to the public.

Possible measures:

- Fencing off the site (height ≥ 2 m);
- Lockable ladder cover (height ≥ 2 m) or lockable folding ladder (access only granted to trained operating personnel);
- Portable ladder for the bottom 2 m section (must be brought along by the operating personnel).



7.3.3 Portable ladders

Portable ladders are only suitable as temporary workplaces for short-term work and as access points. Only light work may be carried out on portable ladders (e.g. reading measurements off equipment). The ladder may not be subjected to large horizontal forces; otherwise, there is a risk of the ladder tipping over. Ladders are **not suitable** for **extensive work** with a fall height **over 2 m** from the standing surface. The associated risk is too high. Only lightweight materials or tools in suitable containers may be carried along. There must be an option to secure portable ladders against skidding, tilting, and turning using available devices (e.g. suspension fitting)⁴².

Simple ladders must be set up with an **inclination angle of approx. 70–75°** and must **extend at least 1 m beyond the exit point**. The top 3 rungs may not be climbed without a holding possibility. If the ladder is not mechanically secured against slipping, twisting, or toppling, a second person must secure the ladder at the base.

In general principle, portable ladders must meet the requirements of the EN 131-2 standard⁴³. They must be stored and maintained in line with the manufacturer's specifications. Any portable ladders that stay at the site must be secured against unauthorised use (e.g. padlock).

7.3.4 Lifting platforms and scaffolding

When working on lifting⁴⁴ platforms and scaffolding⁴⁵, the relevant Suva regulations and the instructions in the operating manual must be followed.

⁴² Suva: *Portable ladders – correct handling of single and double ladders*. www.suva.ch/44026.D

⁴³ SN EN 131-2 *Ladders – Requirements, testing, marking*

⁴⁴ Ausbildung und Instruktion für Bediener von Hubarbeitsbühnen <https://www.suva.ch/hab>

⁴⁵ Sichere Arbeitsgerüste <https://www.suva.ch/gerueste>

7.4 Fall arresters

7.4.1 Execution

Fall arresters in acc. with EN 353-1 (rigid anchor line)⁴⁶ or EN 353-2 (flexible anchor line)⁴⁷ are primarily devices fixed onto ladders, consisting of a guided-type fall arrester, which blocks independently in the associated guide device in the event of a fall.

Fixed ladders with a fall height ≥ 5 m must be equipped with a fall arrester in machinery from a height of 3.0 m. The fall arrester must start working no higher than **3 m** from the surface⁴⁸. Works may be carried out from fixed ladders with a fall arrester up to a distance of 1.0 m between the ladder and the workplace.

With fall arresters, the retracting space for the guided-type fall arrester must be situated 1 m (+/- 0.15 m) over the access terrain and fitted with a climbing stop (securing device against unintentional extension and incorrect insertion of the guided-type fall arrester). The entire climbing path must be secured by a fall arrester, except for transfers over a platform.

To access equipment (operational aspects) or in special cases (ownership), ladders may be fitted with a back guard instead of an arrester.

Safety devices must be designed for a static load of at least 15 kN in acc. with EN 353-1.

Product standard for fall arresters in new constructions (general case): "**Söll Glideloc**", other fall arresters (e.g. as specified by the site owner) are only possible in exceptional cases.

The correct assembly of fall arresters must be documented in the technical documentation of the site, using the manufacturer-specific checklist.

The system user must carry out a visual inspection of the fall arrester before use. If it has a defect, it may not be used. Defects must be reported immediately to the facility operator in writing.

⁴⁶ SN EN 353-1: *PPE – Guided-type fall arresters incl. a rigid anchor line*

⁴⁷ SN EN 353-2: *PPE – Guided-type fall arresters incl. a flexible anchor line*

⁴⁸ Suva: *Fixed ladders*. www.suva.ch/67055.D

7.4.2 Marking

The rigid anchor line must have a permanent and clearly legible marking in the languages of the destination country, meeting the following minimum requirements:

In addition to the general information in acc. with EN 365⁴⁹, the marking must include the following:

Labelling on or next to the guide device.

- Reference to the identification label on the model/type of the guided-type fall arresters, if the guided type fall arresters can be removed from the rigid anchor line;
- the standard fulfilled by the product incl. year of publication, or EN 353-1:2018.

Marking on the guided-type fall arrester:

- the minimum and maximum nominal load;
- reference on the guided-type fall arrester to the proper alignment for use and to the identification label on the model/type of the corresponding rigid anchor line, if the guided-type fall arrester can be removed from the rigid anchor line.



7.4.3 Inspection of fall arresters

Product	Recommended inspection interval rope/rail
Söll "GlideLoc" (without any mechanically moving parts, e.g. switches, exit device)	in a 5–8 years period or after special events
Söll "GlideLoc" (with moving parts, e.g. switches, exit device)	Annually or after special events
LatchWay "Ladderlatch"	Annually or after special events
Von Roll/Rahn "STC"	in a 5–8 years period or after special events

Fall arrester inspections in acc. with manufacturer's specifications must be documented in the maintenance documentation by an expert. This confirms that the fall arresters are functioning without a flaw at the moment of inspection. After special events (e.g. fall load), the fall arrester must be inspected by an expert. Runners must generally be inspected once a year.

⁴⁹ SN EN 365 *Personal protective equipment against falls from a height – general requirements for instructions for use, maintenance, periodic examination, repair, marking, and packaging*

7.5 Working platform

All components must be accessible in a secured condition. If a workplace is inaccessible from the ladder, safety measures must be taken.

Possible solutions:



7.6 Working on a hanging rope

Work on a hanging rope (Rope Access and Positioning Method) is only permissible if special precautions are taken and may only be carried out by specially trained personnel⁵⁰.

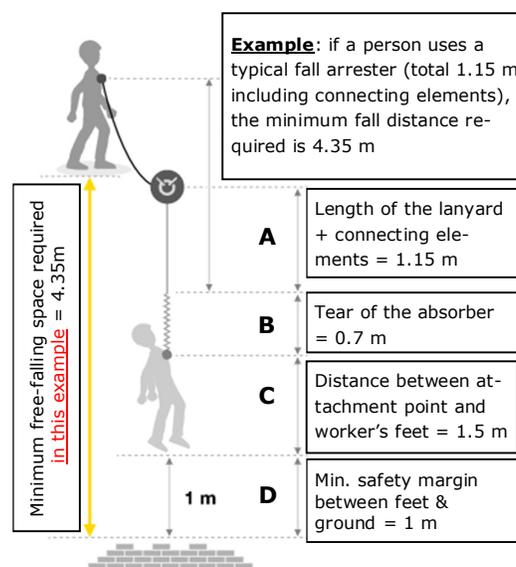
7.7 Anchor devices

7.7.1 Arrangement and falling space

Anchor devices are elements that can be used by persons to secure their PPE (safety harness and lanyards). The requirements below apply to these elements, among others.

Anchor devices must be selected and arranged such that adequate free-falling space is given. This concerns the free space given under the user, required to make sure a falling person does not hit an obstacle during their fall.

A number of factors must be taken into account to determine the minimum fall space, including: A) the length of the harness lifeline, B) the extended length of the shock absorber, C) the average distance between the anchor point or the harness and the feet of the user, and D) a safety distance between the feet and the impact hazard, as well as the maximum weight of a user as specified by the manufacturer (including equipment) and the fall height (depending on the position of the point of the impact hazard).



Source: Petzl www.petzl.com

If insufficient free space is available, another measure must be selected (e.g. guard-rail).

⁵⁰ Suva: *Working on a hanging rope*. www.suva.ch/seil

The height of the free fall⁵¹ (e.g. with a swing fall) must never exceed 2.0 m.

Anchor points for a person with PPE must demonstrably have a load-bearing capacity of at least 10 kN in the direction of the arrest force in acc. with the requirements of the applicable standards⁵². The load-bearing capacity of the anchor point must be ensured in all falling directions.

7.7.2 Anchor devices on ladders

If the ladder comes closer than ≤ 0.5 m to the top of the mast/pylon or if the workplace is located < 1 m from the ladder, no additional anchor points are required. The attachments on the ladder can be used as an anchor point.

7.7.3 Anchor devices in acc. with EN 795 or prEN 17235

Anchor devices must demonstrably meet the requirements under standards EN 795⁵³ or prEN 17235⁵⁴ and the products must be documented in acc. with statutory requirements⁵⁵ (use instructions, sample/test certificate of an accredited laboratory and declaration of conformity/performance must be available). Attachments to the surface must meet the specifications of the manufacturer or the recognised state of the art.

A static calculation of the anchoring and assessment of force dispersions in the carrying structure must be available, as created by a qualified expert (e.g. structural engineer) and handed over to the facility owner. The bending torques, deviation forces, and end anchor-point forces on posts as well as the dowel bar spacings must be observed. Intermediate components such as posts of rope systems or special constructions for anchor points must also meet this requirement.

Anchor points must have permanent and well-visible markings in acc. with the applicable standard, state of the art, and manufacturer's specifications, at least including:

- Manufacturer trademark;
- Anchor system product designation;
- Reference to the applied standard, incl. year of publication;
- Intended max. number of users if > 1 ;
- Manufacturer series number or batch designation.

The correct assembly of anchor devices must be documented in writing in assembly documentation. The user must carry out a visual/functional inspection of the anchor devices before commencing work. If it has a defect, it may not be used. Defects must be reported immediately to the facility operator in writing. PPE may never be anchored to anchor devices without labelling. Alternative securing options on the carrying structure are to be defined and used.

⁵¹ Length of the lanyard (incl. snap hook) from the falling edge up to the eye on the lanyard

⁵² SN EN 795 *Personal fall protection equipment – Anchor devices* / prEN 17235 *Permanent anchor devices...*

⁵³ SN EN 795 *PPE – anchor devices*

⁵⁴ prEN 17235 *Permanent anchor devices and safety roof hooks*

⁵⁵ Construction Product Act (BauPG), Construction Product Ordinance (BauPV) or Product Safety Act (PrSG), PPE Ordinance (PSAV)

Classes of anchor devices in acc. with EN 795

- Class A Anchor device with one or more structural anchor points for attachment to vertical, horizontal, and sloped surfaces
- Class B (Stationary) temporary anchor devices, which require no anchor point to the structure
- Class C Anchor device employing horizontal flexible lines ("rope system"), which departs from the horizontal by no more than 15°
- Class D Anchor device employing horizontal rigid anchor rails ("rail system" which departs from the horizontal by no more than 15°
- Class E Deadweight anchors for use on horizontal surfaces, which depart from the horizontal by no more than 5°.
Deadweight anchors may not be used if the distance to the roof edge is less than 2.5 m.
With Class E anchor devices, the construction materials and operating conditions declared suitable by the manufacturer must permanently be marked on the deadweight anchor.

7.7.4 Permissible anchor points

With anchor devices of Class A, B, D, and E according to EN 795, there is no restriction in the product selection. Product systems for anchor devices Class C, permanent "rope systems", are specified by the facility operator. Other Class C products are not permissible.

7.7.5 Anchor devices on roofs

When planning an anchor device on roofs, the applicable rules must be observed⁵⁶.

7.7.6 Inspection of anchor devices

Anchor devices are to be serviced and maintained in line with manufacturer specifications⁵⁷.

A visual inspection of the anchor system or anchor device is required if the system/device was not checked by a competent person within the last 12 months.

Manufacturers must provide all information required for regular inspections by a skilled person.

The inspection should be documented in writing in the documentation of the anchor system⁵⁸.

8 Lightning protection

Measures to protect against lightning are to be realised in line with the requirements of the relevant canton. A lightning protection concept must generally be created in line with the recognised state of the art.

⁵⁶ Suva: Proper planning of anchor devices on roofs. www.suva.ch/44096.D

⁵⁷ VUV Art. 32b

⁵⁸ prEN 17235 *Permanent anchor devices and safety roof hooks*

9 Electrical energy

9.1 Low-voltage installations

Electrical installations must be created, modified, maintained, and inspected in line with good engineering practice. They might not pose a threat to persons, animals, or property, neither with proper operation or use, nor whenever possible in the event of improper operation or use, nor in the event of a foreseeable defect.

The Ordinance on Low-Voltage Installations (NIV) stipulates the requirements placed on work on electrical low-voltage installations (electrical installations) and the inspection of these installations. It applies to electrical installations that:

- a. are operated with a high-voltage current, however not exceeding 1000 V alternating current or 1500 V direct current;
- b. are supplied with voltages in acc. with lit a, but are operated with high-voltage;
- c. are operated with a max. operating voltage current of 50 V alternating current or 120 V direct current and a max. operating current of 2 A (only the general provisions of Art. 1–5 as long as there is no threat to persons or property).

All those creating, modifying, or restoring electrical installations, as well as all those who either permanently connect electrical products to electrical installations or interrupt, modify, or repair these connections, must be in possession of an “Installation Permit” of the inspectorate.

9.2 High-voltage installations

The creation, operation, and servicing of high-voltage installations are governed by the High-Voltage Ordinance (SR 734.2).

Only experts may supervise work on or in high-voltage installations and the associated operational installations, as well as in the implementation of occupational safety measures, in acc. with the definition of ESTI Instruction 100⁵⁹.

“Instructed persons” may also check and operate systems as well as carry out special tasks. The movement of externals who work in the operating area is to be restricted to their deployment location and access.

9.3 Access to and work and installations on high-voltage pylons

The requirements of the utility must be considered relating to access to the telecommunications system on high-voltage transmission lines. During thunderstorms, dwelling on or near high-voltage pylons is prohibited.

ESTI Instruction no. 243 applies to the installation of the power supply of antenna systems on high-voltage pylons⁶⁰. Depending on the execution of the work, it must be clarified with the utility whether the works to be carried out fall under the scope of ESTI Instruction 245⁶¹.

⁵⁹ ESTI: *Instruction 100 Terms, switching and work orders*

⁶⁰ ESTI: *Instruction 243 Concepts for the power supply of antenna systems on high-voltage pylons*

⁶¹ ESTI: *Instruction 245 Secure working on high-voltage transmission lines*

10 Safety signs

10.1 Introduction

Prohibitions, hazards, and rules must be communicated to the user on site using the official markings. The size of the marking must be chosen based on the distance from where the sign should be perceived. The colours, shapes, and symbols are regulated internationally^{62, 63}.

10.2 Prohibition signs

Safety signs that prevent behaviour that might result in a dangerous situation or point to a legal ban.

Shape: circular; Basic colour: white (RAL 9003),
Border: red (RAL 3001), Symbol: black (RAL 9004)

DIN D-P006:

No unauthorised entry

All entries should be marked with the sign "No unauthorised entry".



Site blocked

Sites with significant hazards must be blocked off immediately and marked for subsequent users in a well-visible manner (ladder is blocked using the provided cable ties). The manual entries must be clean (clearly legible) and permanent. The combination sign must be carried in the form of a sticker or a sign at every use.



⁶² Suva: *Safety markings*. www.suva.ch/44007.D

⁶³ SN EN ISO 7010 *Graphical symbols – Safety colours and safety signs – Registered safety signs*

10.3 Mandatory signs

Safety signs that point to a mandatory action.

Shape: circular; Basic colour: blue (RAL 5005), Symbol: white (RAL 9003)

ISO 7010-M002:

Refer to instruction manual/booklet



ISO 7010-M003:

Use hearing protection



ISO 7010-M004:

Use protective eyewear



ISO 7010-M008:

Use protective footwear



ISO 7010-M009:

Use protective gloves



ISO 7010-M014:

Use protective headgear



ISO 7010-M015:

Use reflective vest



ISO 7010-M018:

Use safety harness



10.4 Warning signs

Safety signs to mark hazardous sites or hazards.

Shape: triangular; Basic colour: yellow (RAL 1003),
Border/symbol: Black (RAL 9004)

ISO 7010-W005:

Warning of non-ionising radiation

When leaving the public area (transfer ZSS/ELV)⁶⁴, the hazard must be pointed out to the user with this sign.

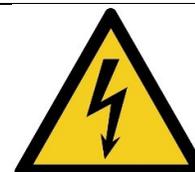
Whenever required, together with a barrier (chain).



ISO 7010-W012:

Warning; Electricity

Hazardous voltage zones (e.g. doors of electrical distribution boxes) must be marked with this sign.



ISO 7010-W004:

Warning; Laser beam + class indication sign with warning text

Hazardous laser zones must be declared with this sign. The laser class must additionally be mentioned.



Hazard marking

Hazards (e.g. tripping hazards, beams, lines on transport routes) must be marked as such. Yellow must account for at least 50% of the base area.



10.5 Recommended site marking

For example, on an adhesive aluminium sign with:

- Facility type (e.g. mobile communications facility)
- Safety signs
- Provider name with phone numbers
- Facility number
- Information text (e.g. "Call network operator before access")

⁶⁴ FOEN: VU-5801-D *Implementation recommendation on the NISV mobile communications and WLL base stations*, Chap. 2.2.5

11 Personal protective equipment (PPE)

11.1 General information on PPE

The hazards at the workplace determine what PPE needs to be used. The following summary makes no claim of completeness. The employer must ensure that any employees reporting to them have the requisite PPE. Conversely, the employee is obligated to use and maintain any PPE entrusted to them.

The products used must meet the requirements of the PPE Ordinance (PSAV) placed on their condition, marking, and documentation⁶⁵.

Refer to the manufacturers' specifications for the inspection intervals and the max. service life of the PPE/rescue devices. The duration for which items of clothing, such as jackets and boots, can be used is based on prior experience.

11.2 Maintenance

The employee is obligated to regularly care for and clean any PPE entrusted to them and to carry out a visual inspection before every use.

Together with the employee, the reception of PPE and the obligation to properly use PPE must be documented in writing. The employee must sign off on this.

11.3 Checking and inspecting personal protective equipment against falls from a height

Before every use, the user must carry out a visual/functional check of the PPE.

The individual components of the personal protective equipment against falls from a height (PPE) are to be inspected regularly (at least annually) by an expert.

Under normal conditions, the PPE can be used until the next regular inspection. Components that are no longer fit for use must be labelled accordingly and disposed of and replaced by the employer. This responsibility does not cover exceptional events (e.g. falls).

⁶⁵EU PPE Ordinance [EU/2016/425](https://eur-lex.europa.eu/eli/dir/2016/425/oj)

11 Personal Protective Equipment

PPE and rescue devices	Requirements/conformity	Inspection by a PPE expert	Specialist telecommunications	Workplace at height, PPE user	"Instructed person" ⁶⁶ "Access high-voltage pylons" "Substations" ⁶⁶	Works in the track area (SBB)
Safety harness	EN 361 + EN 358	●		●		
Guided-type fall arresters "Söll"	EN 353-1	●		●		
Guided-type fall arresters "STC" (by Roll)	EN 353-1	●		○		
Guided-type fall arresters Latchway "Mansafe"	EN 353-1	●		○		
Guided-type fall arresters Latchway "LadderLatch"	EN 353-2	●		○		
Guided-type fall arresters "Railok"	EN 353-1	●		○		
Lanyards (possibly adjustable in length) for work positioning	EN 354/ EN 358	●		○		
Y-lanyard with impact absorber	EN 355	●		●		
Safety helmet with 3/4-point chin strap	EN 12492/ EN 397	●	●	●	●	● ⁶⁷
Rescue device	EN 341/ EN 1496	●		●		
General PPE and other equipment						
Work boots	EN 345-S3		●	●	●	●
Safety vest	EN ISO 20471		●	●		●
Hearing protection	EN 52-2		●	●		●
Protective goggles	EN 166		●	●	●	●
First aid kit				●	●	●
Work gloves				●	●	●
Wind- and water-repellent jacket				●		●
Wind- and water-repellent trousers				●		●
Windproof fleece				●		●
Cap (compatible with the helmet)				●		●
Flashlight/headlamp			●	●	●	●
Sign "Site blocking"			●	●	●	●

Caption: ● mandatory equipment, ○ optional equipment (might be required depending on the situation)

⁶⁶ Requirements for general PPE shall be determined in advance with the respective EVU. Requirements might differ in substations as well as on high-voltage pylons.

⁶⁷ Employees may not wear a white protective helmet in the track area (only track safety wardens may)

12 Document control

Approval/publication

vari-ous	service providers	Date	Approving Party
3.2	Cellnex Switzerland AG	16.12.22	
3.2	Huawei Technologies Switzerland AG	16.12.22	
3.2	Salt Mobile SA	16.12.22	Salt Mobile SA, OHS Mgr
3.2	Swiss Federal Railways SBB	16.12.22	
3.2	Sunrise LLC	12.12.22	Mobile Access / Radio Engineering
3.2	Suva	16.12.22	Suva Bereich Bau/mgr
3.2	Swissgrid AG	16.12.22	
3.2	Swisscom (Switzerland) AG	12.12.22	GSE-PHY Group Physical Security
3.2	Swisscom Broadcast	14.12.22	SBC-BS / MaBo

Review/change control

vari-ous	service providers	Date	Review/check by	Comments/supplements
3.2	Cellnex Switzerland AG	28.07.21	Martin	Änderungen (Ziff.): 1.3
3.2	Huawei Technologies Switzerland AG		Wyler	
3.2	Salt Mobile SA	25.06.21	Sallin/Stalder/Piotrowski	Translation English, Changes (section): 4.4.14, 7.7.1
		02.02.22	Sallin	English translation 3.2
		09.06.23	Piotrowski/Sallin	
3.2	Swiss Federal Railways SBB	20.01.22	Gysel	Changes (section): 4.4.14
3.2	Sunrise LLC	21.05.21	Hinn	Translation French, Changes (section): 4.4.6, 4.4.9, 7.2.1
		28.06.21	Hinn	French translation
		28.11.22	Hinn	
3.2	Suva	09.04.21	Hartmann	Changes (section): 7.2.1
		11.10.22	Graf	2, 4.3, 4.4.1, 7.1
3.2	Swissgrid AG	12.08.22	Duttwiler	Changes (digit): 4.4.9
3.2	Swisscom (Switzerland) AG	23.03.21	Binggeli	Translation Italian
		01.11.22	Bertolini	Italian translation 3.2
		12.12.22	Bertolini	Translation Italian
3.2	Swisscom Broadcast		Bohnet	

Annex 1: Laws and Ordinances

ArG	Swiss Federal Labour Act	(SR 822.11)
ArGV	Ordinances 1 – 5 to the Swiss Federal Labour Act	(SR 822.111 , .112 , .113 , .114 , .115)
BauAV	Ordinance on the Protection of Health and the Safety of Workers in Construction	(SR 832.311.141)
BauPG	Construction Product Act	(SR 933.0)
BauPV	Ordinance on Construction Products	(SR 933.1)
EigV	Ordinance on the Qualification of Occupational Safety Specialists	(SR 822.116)
NISV	Ordinance on Non-ionising Radiation	(SR 814.710)
NIV	Ordinance on Low-Voltage Installations	(SR 734.27)
PrSG	Product Safety Act	(SR 930.11)
PSAV	PPE Ordinance	(SR 930.15)
SSV	Signalisation Ordinance	(SR 741.21)
	High-voltage Ordinance	(SR 734.2)
VUV	Ordinance on Accident Prevention	(SR 832.30)
UVG	Swiss Federal Law on Accident Insurance	(SR 832.20)

Annex 2: Limit values, guidelines, and instructions

Suva limit values	Limit values at the workplace – TLV/BLV (comments), physical influences, physical loads	www.suva.ch/1903.D
FCOS 6508	Guideline – Involvement of occupational physicians and other occupational safety experts (ASA Guideline)	www.suva.ch/6508.D
FCOS 6512	Guideline – Work equipment	www.suva.ch/6512.D
ESTI 100	Terms, switching and work orders	www.esti.admin.ch
ESTI 243	Instruction – concepts for the power supply of antenna systems on high-voltage pylons	www.esti.admin.ch
ESTI 245	Instruction – Securing working on high-voltage transmission lines	www.esti.admin.ch
ESTI 407	Instruction – Works on or near electrical systems	www.esti.admin.ch
Seco	Instructions on Ordinances 3 and 4 to the Swiss Federal Labour Act	www.seco.admin.ch/...

Annex 3: Instruction on Occupational Safety

(This document is an integral component of the service contract)

Employees at all levels of hierarchy (client and contractor/provider and subcontractor) are obligated to conduct themselves so as to ensure the safety of themselves and their colleagues.

Evidence of compliance must be provided on request at all times.

1 Employees

- The consumption of alcohol and drugs before or during the hours of work is strictly prohibited. Full capacity to perform is already demanded when work begins.
- Regulations of the facility owner (e.g. Swissgrid, EVU, SBB), as well as guidelines and instructions of the operator and Suva, must be complied with.
- The site and access information must be consulted before every site visit.

2 Emergencies

Access to a first aid kit must be guaranteed.

3 Defects

- Defects must be reported to the site operator. In the event of grave safety defects, the site must be blocked and the hazardous zone marked accordingly (report must be submitted to the competent safety officer within 24 hours).
- Accidents/near-accidents are to be reported to the safety officer of the site operator.

4 Outdoor workplaces

- Sites may not be accessed under extreme weather conditions (e.g. ice build-up, excessively strong winds, risk of thunderstorms).
- In the event of a threat to third persons, the terrain must be cordoned off and third parties kept away.
- When working on masts/pylons, dwelling in the hazardous area (e.g. mast base) must be reduced to an absolutely minimum. Moreover, a safety distance must be kept and the hazardous zone must be observed.
- Mains-operated devices must always be connected via an RCD.

5 Personal protective equipment (PPE)

- Every employee is responsible for the safety equipment they have signed off on. If parts of the safety equipment are damaged or defective, always discontinue their use and immediately report the damage/defect to the safety officer or area manager.
- PPE must be serviced regularly. Individual components are to be inspected by an expert annually.
- A safety vest must always be worn in road and rail areas, as well tunnel systems.
- If necessary, wear sunglasses and neck protection, use sunscreen.

6 Workplaces at height

- Masts/pylons may only be climbed if a safety device and at least two persons trained in their use are available on site.
- All safety distances must be kept.
- Ladders with a length over 3 m may not be climbed without valid rescue and PPE training (mast/pylon climbing).
- Masts/pylons may not be climbed by persons in a weak physical or mental state, as well as by those with fear or proneness to vertigo.
- A general obligation to wear a helmet applies in the mast area (protective helmet with chin strap).
- Masts/pylons may only be climbed with complete personal protection equipment (incl. safety boots).
- The user of the system must subject the fall arrester (climbing protection or lifeline system) to a visual inspection when beginning work. If the device is defective, it must not be used. Defects must be reported immediately to the facility operator, together with the "Site blocking" checklist.
- When climbing up and down, the climbing protection device or Y-lanyard impact absorber must consistently be used for safety reasons.
- In the event of too much physical strain (due to great height of ascent, weight of the material carried, forced posture, shape or size of available standing surfaces, etc.), take a break if necessary and use a rest platform.
- During the work, at least one safety device (no unsecured state) must be given (impact absorber on the anchor point).
- When working from a ladder, a lanyard with shock absorption (when using a Y-lanyard, both cams (pipe/scaffolding hook) must always be hung) must be used as a 2nd safety system.
- Anchor points must always be selected as high as possible above one's own location.
- On masts/pylons, every effort must be taken to protect materials and tools from falling. Avoid sudden lifting and lowering motions (rope) of loads by carefully guiding and braking the rope. Protect cables from slipping, e.g. with a strap (cable support grip).
- When climbing past and passing in front of antennas (electromagnetic fields), the dwell time should be restricted to a minimum.
- Portable ladders (extension ladders) must always be secured (by an attendant or by tying them down).

7 Workplaces in the vicinity of high-voltage pylons/installations

- High-voltage pylons and installations must not be accessed without valid EVU training (“trained person”).
- Access to pylons for overhead lines may only take place after consultation with and approval by the EVU. Depending on the level of work/line set-up, work may only be carried out in the presence of an EVU representative.

8 Workplaces in the track area

- The track area (outer track/live component + 5.0 m) may not be accessed without valid training for track areas or a “Sicherheitsdispositiv” ((SBB) Safety Certificate)
- The requisite personal protective equipment in acc. with Section 4.4.14 must be worn.

9 Intervening in the event of unsafe acts

In the event of imminent danger to life and limb of those involved – employees of one’s own company, a third-party company or a third party – the work in question must be stopped. In this case, the supervisors of the parties involved and the operator’s security officer should be informed immediately.

Examples: *Persons are obviously not equipped/persons are working on masts or pylons without being accompanied by a trained and equipped person/extreme weather conditions/insufficient PPE/etc.*

10 Sanctions

Failure to observe the safety provisions may lead to a warning, up to and including termination without notice.

The signatory confirms to have received, read, and understood the “Occupational Safety Telecommunications Sites for Mobile Communications and Radio Broadcasting” document. They are aware that non-compliance with the regulations can result in sanctions.

Family name/first name in block capitals:

Company:

Date/signature:

Annex 4: Hazard identification checklist

Allegato 4: Lista di controllo individuazione dei pericoli

EN When planning a site or during renovation, an on-site hazard identification must be carried out. Any defects or faults identified in this process must be eliminated over the course of the planning or construction phase. Defects which cannot be remedied must be reported to the site operator indicated below.

Hazard identification must be documented, and these documents stored for a period of 10 years. The document must be provided to the client upon request. Non-applicable points shall be deleted.

IT *Nell'ambito della pianificazione di un luogo o di una ristrutturazione, deve essere eseguita un'individuazione dei pericoli in loco. I difetti/guasti scoperti nell'individuazione dei pericoli devono essere eliminati nel corso della progettazione / costruzione. I difetti che non possono essere sanati devono essere segnalati al gestore del sito nel punto sottostante.*

L'identificazione del pericolo deve essere documentata e archiviata per 10 anni. Questo documento deve essere consegnato al cliente su richiesta. I punti non validi vengono cancellati.

Cellnex Switzerland SA (Swiss Towers SA / Swiss Infra Services SA)	swiss_operations@cellnextelecom.ch
Huawei Technologies Switzerland SA	ehsds@ms.huawei.com
Salt Mobile SA	worksafety@salt.ch
Sunrise S.r.l.	network-ehs.spoc@sunrise.net
Swisscom (Schweiz) SA	safety.scs@swisscom.com
Swisscom Broadcast SA	securityenvironment.sbc@swisscom.com

Site information | *Informazioni sul sito*

Site designation <i>Designazione sito</i>	
Address <i>Indirizzo</i>	
Postal code, City <i>NAP, Località</i>	

Esecutore | *Executing party*

Company <i>Azienda</i>	
Last name, first name <i>Cognome, Nome</i>	
Phone number <i>Nr. telefonico</i>	
Place, date, signature <i>Località, data, firma</i>	

EN The undersigned hereby confirms that all measures required under the "Occupational Health & Safety Guidelines on Telecommunication Sites for Mobile Communications and Radio Broadcasting" have been considered on this site.

IT *Il sottoscritto conferma che nel sito sono state prese in considerazione tutte le misure richieste della «linea guida sicurezza sul lavoro sui siti di telecomunicazione per la telefonia mobile e la radiodiffusione».*

Client signature (measures accepted) <i>Firma del committente (misure accettate)</i>	
---	--

Hazard description | *Descrizione del pericolo*

#	Hazard description <i>Descrizione del pericolo</i>	Risk <i>Rischio</i>	Measure <i>Misura</i>	Date <i>Data</i>	Initials (done) <i>Visto (liquidato)</i>

EN Description, specification of the safety objectives, measures and safety requirements**IT Descrizione, specifica degli obiettivi di protezione, misure e requisiti di sicurezza**

Item Soggetto	Yes Sì	No No	Not applicable/ Irrilevante
Environment, access, site (year-round) <i>Ambiente, accesso, sito (tutto l'anno)</i>	✓	✗	n/a
1 Is the system protected from environmental events (e. g. avalanches)? <i>L'impianto è protetto contro eventi ambientali (ad es. caduta valanghe)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 Is vehicle access safe? <i>L'accesso con veicoli è sicuro?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 Is safe access to the site guaranteed? <i>È garantito un accesso sicuro al sito?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 Are the railway facilities (+5.0 m from the outer track) never entered? <i>L'ambito ferroviario (dal binario esterno + 5.0 m) non viene penetrato in alcun momento?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Is access made difficult for unauthorized parties (e. g. with a fence)? <i>L'accesso all'impianto è reso difficoltoso per persone non autorizzate (ad es. con una recinzione)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Is the route to the equipment clearly visible and marked (e. g. signage, floor slabs, handrail, guide chains)? <i>Il percorso verso l'equipaggiamento è chiaramente visibile e contrassegnato (ad es. segnaletica, lastre di pavimentazione, corrimano, catene guida)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7 Are tripping and slipping hazards eliminated or marked? <i>Pericoli di caduta e inciampamento sono eliminati o segnalati?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Site / Installation <i>Impianto / installazione</i>	✓	✗	n/a
8 Can the equipment be reached safely and without harm? <i>Gli equipaggiamenti possono essere raggiunti in maniera sicura e senza pericoli?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9 Are impact hazards (e. g. sharp edges) with risk of head and torso injury eliminated, padded, or marked? <i>Sono stati eliminati, imbottiti o contrassegnati i rischi di impatto (ad es. spigoli appuntiti) per la testa e il busto?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10 Are inaccessible surfaces/zones secured against breakage or restricted? <i>I piani/aree non accessibili sono protetti contro lo sfondamento (rottura) o sono delimitati?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11 Are openings on the floor (e. g. skylights) protected against falls? <i>L'aperture sul pavimento (ad es. i lucernari) sono protette contro la caduta?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Annex 4: Hazard identification checklist

	✓	✗	n/a
12 Are fall protection anchors available on sloped surfaces? <i>Su superfici in pendenza, sono disponibili ancoraggi anti caduta?</i>	○	○	○
13 Are guardrails measuring at least 1 m in height and with a load-bearing capacity of 1000 N/m available at the working platforms with a fall height greater than 0.5 m and for falling edges with a fall height less than 2 m (3 m*)? * see chapter Error! Reference source not found. Sono presenti ringhiere con un'altezza di almeno 1 m e una capacità portante di almeno 1000 N/m per piattaforme di lavoro con un'altezza di caduta > 0,5 m e per bordi con un'altezza di caduta > 2 m (3 m*)? * vedi capitolo Error! Reference source not found.	○	○	○
14 Are working platforms available for fatigue-free working, and is working possible without excessive strain or a forced posture (ergonomic)? <i>Sono disponibili piattaforme di lavoro per lavorare senza fatica, lavorare senza sforzi eccessivi e posture forzate (ergonomia)?</i>	○	○	○
15 Are anchor points for PPE against falls positioned correctly (avoid swing falls)? <i>I punti di ancoraggio per i DPIac sono posizionati correttamente (evitare le cadute a pendolo)?</i>	○	○	○
16 Are anchor points clearly visible and marked in accordance with the requirements? <i>I punti di ancoraggio sono ben visibili e indicati secondo le disposizioni?</i>	○	○	○
17 Is all safety equipment documented? <i>Tutti gli equipaggiamenti di sicurezza sono documentati?</i>	○	○	○
18 Is the visual inspection of the lightning protection correct? <i>L'ispezione visiva della protezione antifulmine è in ordine?</i>	○	○	○
19 Does the visual inspection of the steel structure confirm it shows no defects (e. g. corrosion)? <i>L'ispezione visiva della struttura/costruzione in acciaio è priva di difetti (ad es. corrosione)?</i>	○	○	○
20 Is the lighting appropriate and sufficient (e. g. access, workplace)? <i>L'illuminazione è appropriata e sufficiente (es. accesso, luogo di lavoro)?</i>	○	○	○
21 Is access to hazardous zones secured (e. g. silo opening, lift motor)? <i>Gli accessi ad ambienti con pericoli sono sicuri rispettivamente protetti (es. apertura del silo, motore dell'ascensore)?</i>	○	○	○
22 Is fire protection guaranteed (e. g. firewalls)? <i>La protezione antincendio è garantita (ad es. muri tagliafuoco)?</i>	○	○	○
23 Is the protection of third parties guaranteed? <i>La protezione di terze persone è garantita?</i>	○	○	○
24 Are live components (e. g. electrical connections) protected against contact? <i>Le parti in tensione (ad es. collegamenti) sono protette contro il contatto?</i>	○	○	○
25 Are the power supply cables (up to 1.5 m above ground) on high-voltage pylons protected by a protective cover? <i>Sui tralicci dell'alta tensione, i cavi d'alimentazione (fino a 1,5m dal suolo) sono protetti da una copertura di protezione cavi?</i>	○	○	○

Annex 4: Hazard identification checklist

		✓	✗	n/a
26	Is the influence of electromagnetic fields eliminated (on trained personnel and third parties)? <i>L'influenza dei campi elettromagnetici è eliminata (per il personale istruito e per i terzi)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Fixed ladders <i>Scale fisse</i>	✓	✗	n/a
27	Is the safe use of a fixed ladder guaranteed for a fall height over 5 m (e.g. back protection)? <i>Per un'altezza di caduta >5m da una scala fissa, è garantito un'utilizzo sicuro? (ad es. protezione dorsale)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28	Has the safety system in use been authorized by the operator? <i>Il sistema di sicurezza utilizzato è approvato dall'operatore?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29	Can the ladder be reached safely? <i>La scala può essere raggiunta in condizioni di sicurezza?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30	Is the size of the step (difference) between the ladder and the platform not over 30 cm? <i>La dimensione del passo (differenza) dalla scala alla piattaforma non supera i 30 cm?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31	Is the ladder protected against unauthorised use (e. g. cover, fastening)? <i>La scala è protetta dall'uso ai non autorizzati (ad es. copertura, chiusura)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32	Are the safety rails in proper condition, without recesses, gaps or breakages (visual inspection during use)? <i>I binari di sicurezza sono in perfette condizioni, senza spazi, spalti vuoti o rotture (controllo visivo durante l'utilizzo)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33	Is the terminus (end stop) at the lower end of the rail correctly mounted? <i>Il fine corsa (blocco) all'estremità inferiore del binario è montato correttamente?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34	Is the terminus (end stop) at the upper end of the rail correctly mounted? <i>Il fine corsa (blocco) all'estremità superiore del binario è montato correttamente?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Signs <i>Cartelli indicatori</i>	✓	✗	n/a
35	Are the safety signs posted in accordance with chapter Error! Reference source not found. ? <i>Sono affissi le segnaletiche di sicurezza secondo il capitolo Error! Reference source not found.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36	Are escape route signs installed on site in accordance with legal requirements? <i>É presente sul sito la segnaletica per le vie di fuga secondo i requisiti di legge?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This document includes the most important points and does not claim to be exhaustive.

Questo documento contiene gli aspetti più importanti e non ha la pretesa di essere esaustivo.

Supplements

Aggiunte

Annex 5: Conduct in the workplace checklist (occupational safety)

Allegato 5: Lista di controllo Comportamento sul luogo di lavoro (Sicurezza sul lavoro)

EN Supervisors must regularly check that all supervised employees comply with these guidelines.

IT I superiori sono tenuti, a scadenze regolari, ad effettuare dei controlli in merito al rispetto della presente linea guida da parte dei loro dipendenti.

Check | Controllo

Name of the employee <i>Dipendente</i>	
Company, department <i>Azienda, dipartimento</i>	
Site <i>Sito</i>	
Workplace <i>Luogo di lavoro</i>	

Supervisor in charge | Superiore responsabile

Name of supervisor <i>Nome del superiore</i>	
Date <i>Data</i>	
Signature of supervisor <i>Firma superiore</i>	

EN The following checklist summarizes hazards. In case of answering “No”, the corresponding measures must be implemented. Filled-in checklists must be stored.

IT La seguente lista di controllo è un riassunto di pericoli. Alle domande alle quali si risponde con un "no", vanno approntate delle relative misure. Le liste di controllo compilate vanno archiviate.

Item Soggetto	Yes Sì	No No	Not applicable Irrilevante
Hazard information Informazioni inerenti i pericoli	✓	✗	n/a
1 Are workers informed about site-specific hazards (site database)? <i>I lavoratori sono a conoscenza dei pericoli specifici del sito (banca dati del sito)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 Did the worker observe the posted hazard signs and corresponding recommendations (e. g. laser, high-voltage, use of safety harness)? <i>Il lavoratore ha prestato attenzione ai cartelli indicatori dei pericoli e alle relative raccomandazioni (ad es. laser, alta tensione, uso di imbracature di sicurezza)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 Were the devices switched off, marked, and secured to prevent accidental start-up? (e.g. work on fiber optic cables, electric switchboards)? <i>Le apparecchiature sono state spente, etichettate e predisposte per evitare il reinserimento accidentale? (ad es., lavori su cavi in fibra ottica, quadri elettrici di distribuzione).</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special situations and places Situazioni speciali e luoghi	✓	✗	n/a
4 Did the employee take the weather conditions into consideration? (e. g. ice, rough winds, avalanches)? <i>Il lavoratore ha considerato le condizioni meteorologiche (ad es. ghiaccio, venti tempestosi, pericolo di valanghe).</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Is a minimum distance of 5.0 m from the external railway track observed when working on the railway facilities? <i>Quando si lavora in ambito ferroviario, va mantenuta una distanza minima di 5.0m dal binario esterno (all'esterno della zona di pericolo)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Are the minimum distances observed when working in the vicinity of high-voltage areas? <i>Quando si lavora in prossimità dell'alta tensione elettrica, le distanze minime devono essere rispettate?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

		✓	✗	n/a
7	Working alone is not permitted in the following situations: – Work with a fall height of over 2 m – Work near edges (e. g. edges of buildings); over 2 m (day and night) – Work on or near electrical systems – Work in zones facing natural hazards – Difficult access to the site (e. g. mountainous landscape). <i>Lavorare da soli non è, nelle seguenti situazioni, permesso:</i> – Lavori in cui il rischio di caduta è >2m – Lavori nei pressi dei bordi (ad es. bordi di edifici); <2m (giorno e notte). – Lavori in ambito di installazioni elettriche – Lavori nei pressi di zone confrontate con pericoli naturali – Accessi al sito difficoltosi (ad es. in montagna)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Does the person working alone have the possibility, in the event of an emergency, to raise the alarm (e.g. is there telephone network coverage)? <i>La persona che lavora da sola ha la possibilità, in caso d'emergenza, di dare l'allarme (ad es. vi è copertura della rete telefonica)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Were special measures (in the organization or for personnel) taken when hazards were identified? <i>Sono state adottate misure speciali (nell'organizzazione o per il personale) quando sono stati identificati i pericoli?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency planning Pianificazione d'emergenza		✓	✗	n/a
10	Is the worker familiar with the emergency procedure? <i>Il lavoratore è a conoscenza della procedura d'emergenza?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Is the worker familiar with the emergency numbers and the address of the workplace? <i>Il lavoratore conosce i numeri d'emergenza e l'indirizzo del luogo in cui si trova?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Is access to a (duly serviced) PPE rescue device guaranteed? <i>L'accesso ad un dispositivo di salvataggio DPI (debitamente revisionato) è garantito?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	Is the connection to an external response center guaranteed in case of alarm? <i>È garantito il collegamento ad una centrale di allarme esterna?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working at heights (over 2 / 3 m*) and near a falling edge (under 2 m) <i>Lavori in altezza (>2 / 3 m*) e nei pressi di bordi/angoli di caduta (<2 m)</i> * see chapter Error! Reference source not found. vedi capitolo Error! Reference source not found.		✓	✗	n/a
14	Does the worker use PPE against falls? (e. g. helmet, safety harness, work boots)? <i>Il lavoratore utilizza i DPI (dispositivi di protezione individuale anti caduta), ad es. casco, imbracatura di sicurezza, scarpe da lavoro)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	Are at least 2 persons trained in rescue techniques and the use of the rescue device available on site? <i>Sono presenti sul sito almeno 2 persone formate sulla tecnica di salvataggio e dell'utilizzo del dispositivo di salvataggio a disposizione?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	For work on pylons, is a rescue device available on-site during climbing operations? <i>Per lavori sui piloni, è disponibile un dispositivo salvavita sul sito durante l'arrampicata?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	Is the worker always safe? <i>Il lavoratore è sempre in condizioni di sicurezza?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Annex 5: Conduct checklist

		✓	✗	n/a
18	Is the fall shock absorber used in the working position? <i>Nella posizione di lavoro, viene utilizzato l'ammortizzatore di caduta?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19	Are the anchor points used correctly? <i>I punti di ancoraggio vengono utilizzati correttamente?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	When persons are working at heights, are other persons outside of the danger area (e. g. falling objects)? <i>Se vi sono persone che stanno lavorando in altezza, sono altre persone presenti, fuori dall'area di pericolo ? (ad es. pericolo di oggetti in caduta)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21	Is the danger area marked and isolated (falling objects from above, hazard to third parties)? <i>L'area di pericolo è stata segnalata e isolata (oggetti che possono cadere dall'alto – pericoli per terzi)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DPI PPE		✓	✗	n/a
22	Is the PPE against falls maintained correctly by the user (cleaning, storage)? <i>La manutenzione dei DPIac viene eseguita correttamente da parte dell'utilizzatore (pulizia, stoccaggio)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23	Does the user carry out a visual inspection of the material before using the PPE? <i>L'utilizzatore effettua, prima di ogni utilizzo dei DPI, un controllo visivo del materiale?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24	Was the PPE inspected by a competent person at the prescribed intervals? <i>I DPI sono stati controllati da parte di una persona competente, nel rispetto dell'intervallo temporale previsto?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25	Is the PPE used in accordance with the guidelines (e. g. helmet, safety harness, safety vest)? <i>I DPI vengono utilizzati secondo le indicazioni? (ad es. casco, imbracatura di sicurezza, gilet di sicurezza)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26	Are proper tools for work used (e. g. insulated tools when working on electrical systems)? <i>Per il lavoro, vengono utilizzati i mezzi ausiliari corretti (ad es. utensili isolati per lavori su installazioni elettriche)?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27	Are firewalls operational again after the work is completed? <i>Al termine dei lavori, gli elementi di protezione antincendio sono nuovamente funzionali?</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This document includes the most important points and does not claim to be exhaustive.

Questo documento contiene gli aspetti più importanti e non ha la pretesa di essere esaustivo.

Supplements	
Aggiunte	

Annex 6: Site blocking checklist

Allegato 6: Lista di controllo per il blocco di un sito

EN Technical defects at a site that pose a major occupational safety risk to users require the immediate blocking of the corresponding part of the site. This refers to available technical devices, such as safety rails, handrails, etc. If an entry appears in the "Rejected" column, the corresponding location on-site must be physically blocked, e. g. with a screw, cable tie, etc. Furthermore, the sign "Site blocked" must be posted in a clearly visible spot. If a position needs to be blocked, this checklist must be submitted to the safety officer of the operator within 24 hours (contact data below).

IT I difetti tecnici in un luogo, che rappresentano un grande rischio per l'utente dal punto di vista della sicurezza sul lavoro (dal profilo della SL/TS), richiedono il blocco immediato della parte interessata del luogo. Ciò si riferisce alle apparecchiature tecniche esistenti, come guide di scorrimento, ringhiere, ecc. Se è presente una voce nella colonna "Respinto", la posizione nel punto pertinente deve essere fisicamente bloccata, ad esempio con una vite, una fascetta, ecc. Inoltre, il cartello "Luogo bloccato" deve essere attaccato in un punto chiaramente visibile! Se una posizione deve essere bloccata, questa lista di controllo deve essere inviata al responsabile della sicurezza dell'operatore della posizione entro 24h (indirizzi di seguito).

Cellnex Switzerland SA (Swiss Towers SA / Swiss Infra Services SA)	swiss_operations@cellnextelecom.ch
Huawei Technologies Switzerland SA	ehsds@ms.huawei.com
Salt Mobile SA	worksafety@salt.ch
Sunrise S.r.l.	network-ehs.spoc@sunrise.net
Swisscom (Schweiz) SA	safety.scs@swisscom.com
Swisscom Broadcast SA	securityenvironment.sbc@swisscom.com

Site information | Informazione sul sito

Site designation <i>Designazione sito</i>	
Address <i>Indirizzo</i>	
Postal code, City <i>NAP, Località</i>	

Reporting person | *Persona segnalante*

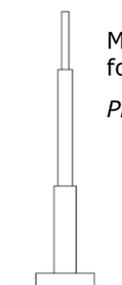
Company <i>Azienda</i>	
Last name, first name <i>Cognome, Nome</i>	
Phone number <i>Nr. telefonico</i>	
Place, date, signature <i>Località, data, firma</i>	

EN The signature of this document attests that the site is not accessible for safety reasons. The restricted zone must be marked both physically and visually by posting hazard signs.

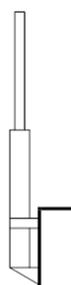
IT Con la firma del presente documento si certifica come il sito non è agibile per motivi di sicurezza. Il blocco del sito è da indicare in maniera fisica come pure visibile con i cartelli indicatori previsti.

Annex 6: Checklist Site blocking

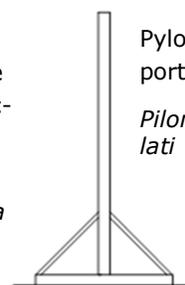
Description, description of hazard, measures, and safety requirements Climbing: the hazardous zone must be marked with an X on the drawing, and the corresponding height must be indicated <i>Descrizione, descrizione del pericolo, misure ed esigenze di sicurezza</i> <i>Arrampicata: la parte pericolosa è da indicare con una croce sul disegno, indicandone pure l'altezza</i>		OK Accettato	Not OK Respinto	Not applicable Irrelevante
		✓	✗	n/a
1	Access routes to and within the building (e. g. ladder, ground, rails, pylon) are perfectly safe. <i>Via d'accesso verso e all'interno dell'edificio (ad es. scale, terreno, ringhiere, accesso al traliccio) sono perfettamente sicure.</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Tripping and slipping hazards are marked. <i>Pericoli legati a cadute e scivolamenti sono segnalati.</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Inaccessible surfaces are blocked, openings on the ground are protected against falls. <i>L'accesso a superfici non praticabili è bloccato, le aperture fatte nel terreno sono protette contro rischi da cadute.</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	The pylon is perfectly mounted (e. g. foundation, bolting at the base, supporting structure, no significant cracks in the wall). <i>Il traliccio è fissato in perfetto stato: fondamenta, base, strutture portanti, nessun fissaggi, ecc.</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	The safety rails and the ladders are in perfect condition (no recesses, gap is max. 4 mm, no breakage). <i>I binari di sicurezza e le scale sono in perfetto stato, nessun incavo, spazio max. 4 mm, nessuna rottura.</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Is the climbing stop installed at the bottom and upper part of the rails? <i>Il blocco per l'ascesa (nella parte inferiore e superiore dei binari) è presente?</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Draw the danger area on the right-hand side (pylon type, height, location). <i>Disegnare il luogo del pericolo sul margine destro (tipo del pilone, altezza, luogo).</i> Hazard description <i>Descrizione del pericolo:</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Mast/pylon with foundation
Pilone con fondamenta



Pylon/console with wall or cantilever anchorage to third party infrastructure
Pilone/console con ancoraggio a parete o a sbalzo su infrastrutture di terzi



Pylon with side support
Pilone sostenuto ai lati

Supplements

Aggiunte