

# FINGRID

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# Safety on the lines



**SAFE  
WORKING  
AT HEIGHT**

Fingrid's occupational safety publication for service providers

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## Safety on the lines

Fingrid's Oyj's occupational safety  
publication for service providers  
1/2018

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**Design by**

Better Business Office Oy

**English translation by**

Mester Translation House Ltd

**Printed by**

Lönnberg Painot Oy

**Published by**

Fingrid Oyj, [www.fingrid.fi](http://www.fingrid.fi)

Läkkisepäntie 21, FI-00620 Helsinki

P.O. Box 530, FI-00101 Helsinki

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**Cover and back cover photos**

Matti Immonen (photo on the screen  
by Timo Varjus)

### Contact us!

We are continuously striving to improve  
our operations concerning occupational  
safety. Occupational safety affects us  
all, and we wish to improve safety in  
cooperation with suppliers. All feedback  
is important. Please send any ideas  
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## EDITORIAL

# Working safely at height



Photo: Tomi Parkkonen

**A**t Fingrid worksites, the risks of working at height on transmission lines are especially high – regardless of whether the job involves maintenance, construction or dismantling work. Last year’s tragic falling accident launched a number of studies and development actions aimed at further clarifying and ensuring the conditions needed to perform this demanding work safely.

The key to safety when working at height is the “Always attached” method, which has been made possible by major developments in the personal equipment of technicians and tower safety structures over the past 20 years. Possible development measures related to Fingrid’s standard tower types will be examined this year.

Worksite instructions are being revised based on the conclusions of the accident investigation. Changes in the future include the requirement for a specific fall protection plan and ensuring that procedures are consistent and

instructions are understood. The use of approved safety equipment in different work phases and moving around on a tower structure must be reviewed as part of induction and when starting work phases. When working at height, every movement must be considered in advance – there is no room for improvisation or impulses. It is also essential to ensure that the main contractor’s good safety practices are adopted by any subcontractors.

Overall professionalism, where an uncompromising attitude towards safety is just as decisive as an employee’s physical performance, technical skill, proper tools and equipment, is particularly important when working at height. Let’s make maintaining this attitude and the resulting improved occupational safety culture a shared mission for everyone operating in the industry.

**Keijo Välimaa**, Construction Manager, Fingrid Oyj

# OCCUPATIONAL SAFETY IN 2017

## – Learning from accidents

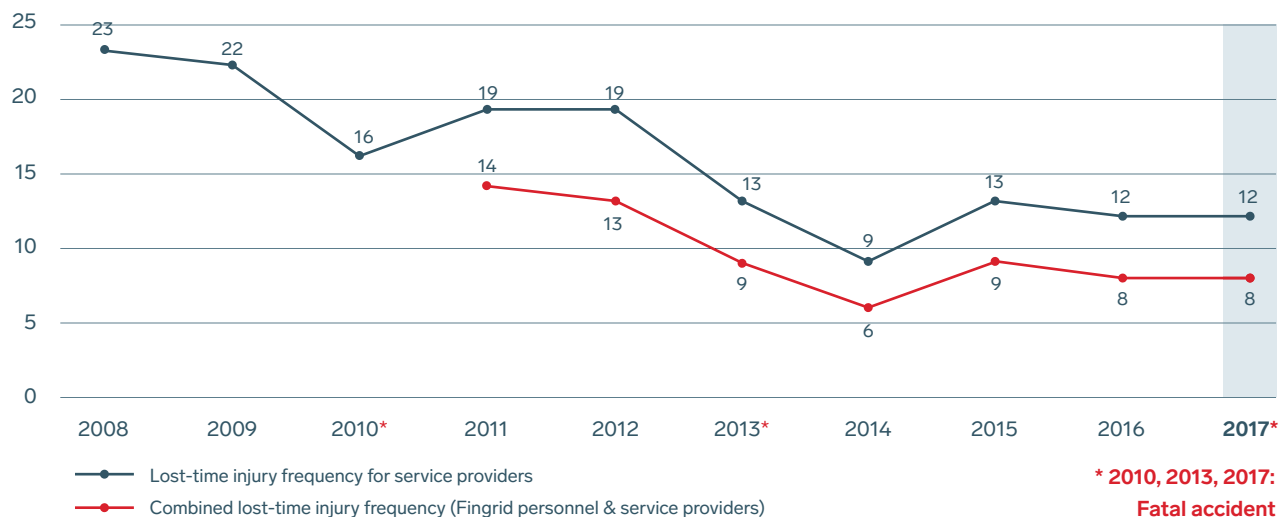
Text Karri Koskinen

Photo Timo Varjus

In terms of occupational safety, 2017 was a very sad year. This year we want to decrease the lost-time injury frequency according to the “It's all about attitude” theme.

## Lost-time injury frequency:

Target 2018: combined lost-time injury frequency > 5



### Lost-time injury frequency:

Number of workplace accidents leading to at least one day of absence from work / one million work hours

In August 2017, an experienced transmission line worker died at a Fingrid worksite after falling 16 metres from a tower to the ground. Two other serious occupational accidents occurred at Fingrid sites during the year. The combined lost-time injury frequency for 2017 was 8, which means we did not achieve the intermediate target of <6 that was set for frequency.

We all have to do our best this year in order to avoid serious accidents and ensure that occupational safety development moves in a positive direction. The theme for 2018 is “It’s all about attitude”. As we work to reach the 0-accident level, an intermediate target of < 5 has been set for lost-time injury frequency in 2018.

Fingrid personnel and suppliers were involved in a total of 11 recorded occupational accidents at Fingrid worksites. Ten of these were lost-time injuries and one was a fatal accident. Three of these accidents took place in transmission line investments, four in substation investments, two in transmis-

### Person-years

	2017	2016	2015	2014	2013	2012	2011
Fingrid personnel, person-years	321	308	287	275	258	250	243
Service providers, person-years	442	573	593	533	639	593	624
Total person-years	763	881	880	808	897	843	867

sion line maintenance and two involved Fingrid employees. In addition, there were fifteen 0-day accidents. The most common causes of accidents in 2017 were slipping and tripping, crushing and falling.

Most injuries in 2015-2017 were caused by slipping and stumbling and various crushing incidents. As a result, it’s important to pay particular attention to the work environment and keeping it in safe condition. Attention must also be focused on work planning and risk assessment in order to identify crushing hazards and protect against them.



## WORKING AT HEIGHT REQUIRES SPECIAL ATTENTION

Falls cause the most damage at Fingrid worksites. In addition to the fatal accident, a person at a substation worksite fell from a circuit breaker maintenance platform that was just under two metres high and sustained a serious leg injury. Another person wearing fall protection fell from a substation work platform and suffered a head injury. The fall protection equipment prevented more serious injuries.

The fatal accident was investigated in cooperation with the supplier and authorities. Based on the investigation, a programme for immediate actions was compiled with the supplier. The main contractor implemented the actions in steps, and work was allowed to continue by work phase. Fingrid prepared an extensive development programme in order to prevent similar accidents in the future. The development programme actions include increased monitoring, tougher penalty practices, production of training videos, and development and instructions concerning the structural safety of working at height.

Attention must also be paid to machines and equipment in hazard areas. In 2017, a serious occupational accident occurred at a transmission line maintenance worksite when a two-person team was transporting the pieces of a horizontal brace from a dismantled tower out of a forest. The pieces were attached to a hoisting machine at the rear of an off-road vehicle equipped with tracks. While crossing a ditch, the pieces rose up and knocked the machine to the side. The pieces hit the worker in the leg and caused a severe fracture. Risk factors must be identified as extensively as possible in advance. The risk assessment must also take moving machines and their danger zones into consideration. It is important for employees to receive instruction in the identified danger zones of machines and safe working methods.

## WE NEED MORE SAFETY OBSERVATIONS

Approximately 250 dangerous situation notifications were made in 2017. About half of these were near misses and half were safety observations. There were a lot of notifications about work machines getting stuck in challenging terrain at transmission line worksites. At substations, many notifications involved timbers containing nails lying on the ground. A number of dangerous situation notifications were made about deficiencies in personal protection gear. Several

notifications concerning dangerous situations related to damage to cables, overhead lines and stay-cables caused by work machines were received from transmission lines and substations. The majority of the dangerous situation notifications were classified as at least severity category C incidents. Approximately 25 incidents were classified in category B and only 2 in the most serious category A.

The goal in 2018 is to obtain as many safety notifications as possible. We challenge every person working at Fingrid worksites to report danger factors that they observe as safety observations using the dangerous situation notification form. An observation can be made about small and large hazards and about positive matters.

**Make a safety observation at**  
[www.fingrid.fi/havainto](http://www.fingrid.fi/havainto)

## SERIOUS NEAR MISSES IN BLASTING WORK

The most serious, or category A, near misses were both related to blasting work. One accident was caused by an external party, when a piece of rock from a worksite beside a Fingrid line hit and broke a Fingrid overhead ground wire. The other blasting accident occurred in an excavation project at a Fingrid substation. Rocks and pieces of blasting mat landed on a neighbouring switchyard in conjunction with blasting work. This event had a happy ending, because no one was injured and no equipment was damaged. The reasons for this near miss situation included the poor condition and overlap of the blasting mats, blasting against hard moraine and the change in rock type at the blasting site.

More than 300 toolbox talks were held in 2017. The number of reported toolbox talks has increased each year and we hope to see this growth continue in 2018. Toolbox talks have been added as a requirement to the contract terms concerning safety. The toolbox talks allow us to ensure that the necessary safety information is effectively communicated to every employee at Fingrid worksites.

Accidents and dangerous situations in 2015-2017 were caused by, in particular, falling, induced voltages and the dangers of electricity, risk taking, inadequate work plans and risk assessments, slipping and tripping, and crushing. Pay special attention to these factors so that we can avoid all accidents and achieve the target of zero accidents. ■

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The theme for 2018 is “It’s all about attitude”. As we work to reach the 0-accident level, an intermediate target of < 5 has been set for lost-time injury frequency in 2018.



# Always intervene in unsafe activities

Text Karri Koskinen  
Photo Matti Immonen

Every one of us has a moral and legislative obligation to intervene when we see unsafe activities at the workplace. Taking the right action may even save your co-worker's life.

**T**he majority of occupational accidents are caused by people. That's why it's important that every employee has the right safety attitudes and no risks are taken. Serious accidents and near miss situations caused by risk-taking have occurred at Fingrid worksites in recent years.

Why do people take risks? This is often a question of the simple desire to do things in a faster or easier way. We assume that work will be completed faster if we take a short-cut. People may also take risks when they're rushed. However, the sense of urgency regarding work usually disappears when an accident happens. Risks can also be taken unconsciously if all the major risks have not been identified or hazard identification hasn't been performed at all. Risk-taking should never be accepted in any conditions, and people should always intervene when they observe it. It's important to identify the danger factors in work, plan the work in a safe manner, and provide induction about safe work methods for everyone who participates in a job.



## What to do if you observe unsafe activities



If you notice work that you consider unsafe, stop the work immediately. However, make sure that you don't put yourself or others in danger when approaching the work site. Tell why you stopped the work and review the requirements for the work in question. Discuss safe performance of the work. If you're not sure that the work method you observed is dangerous, stop the work and discuss the work with the person performing it. Fingrid's principle is that everyone has the right and obligation to stop any work that they consider to be dangerous. The Occupational Health and Safety Act also obliges all employees to ensure the safety of their co-workers.



## UPDATED PENALTY PRACTICES

Fingrid has zero tolerance for unsafe activities. We updated the penalty practices in the contract conditions concerning safety on 1 January 2018. From now on, a person will be immediately banned from the Fingrid worksite in the case of serious violations. The penalty practices have been exceptionally applied to both new and existing contracts. In this way, we want to ensure that every person working on a Fingrid worksite gets home safe and sound at the end of each work day. We believe that intervening means caring about co-workers and our suppliers. During the spring, we will be training Fingrid's personnel on how to intervene according to the zero tolerance principle. This will ensure that we treat all suppliers equally.

In 2017, we had to implement penalty practices several times for deficiencies related to personal protection gear. The goal is to get everyone to comply with the instructions and act safely so that there is no need to use penalties.

### The penalty practices are described as follows in the contract terms concerning safety:

The stipulations governing the use of personal protective gear and prohibition of intoxicating substances are outlined in these Contract Terms concerning safety. The Supplier shall ensure that it, as well as all of its subcontractors, comply with these stipulations under the "zero tolerance" principle.

Violations of the following safety rules are subject to penalty as outlined below in this section:

- **Neglecting the use of high-visibility clothing**
- **Neglecting the use of helmet with chin strap**
- **Neglecting the use of protective footwear**
- **Neglecting the use of eye protection at a construction site**
- **Neglecting the "always attached" principle with safety harnesses**
- **Violating safety instructions in a way that compromises safety at the site**
- **Absence of an ID card with a photo and tax number**

The Client shall immediately report all such incidents to the project managers, site manager, and the person guilty of the violation. Whenever possible, the violation is immediately recorded in the site journal and always in the records of the next site meeting (the violation, date, name, employer, person who detected the violation).

The following penalties are imposed for violations:

1. A fine of EUR 1,000 for the Supplier for each individual violation case
2. The person guilty of violation is given a written warning for the first violation. If the same person violates safety rules again, he/she is given a written warning and removed from the site for the remainder of the day. If the same person violates safety rules at Fingrid's site for the third time, he/she is banned from Fingrid sites for the maximum of two years.
3. In serious cases of violation, the guilty party is immediately banned from Fingrid sites for the maximum of two years. Serious violations include neglect of the "Always attached" method, connecting earthing in a prohibited way or failing to connect it at all, failing to use a helmet and lack of high-visibility clothing. The duration of the ban from sites is considered on a case-by-case basis, and extenuating circumstances may be taken into consideration.

The Client has the right to stop work on the site due to a significant occupational safety violation or repeated occupational safety violations.

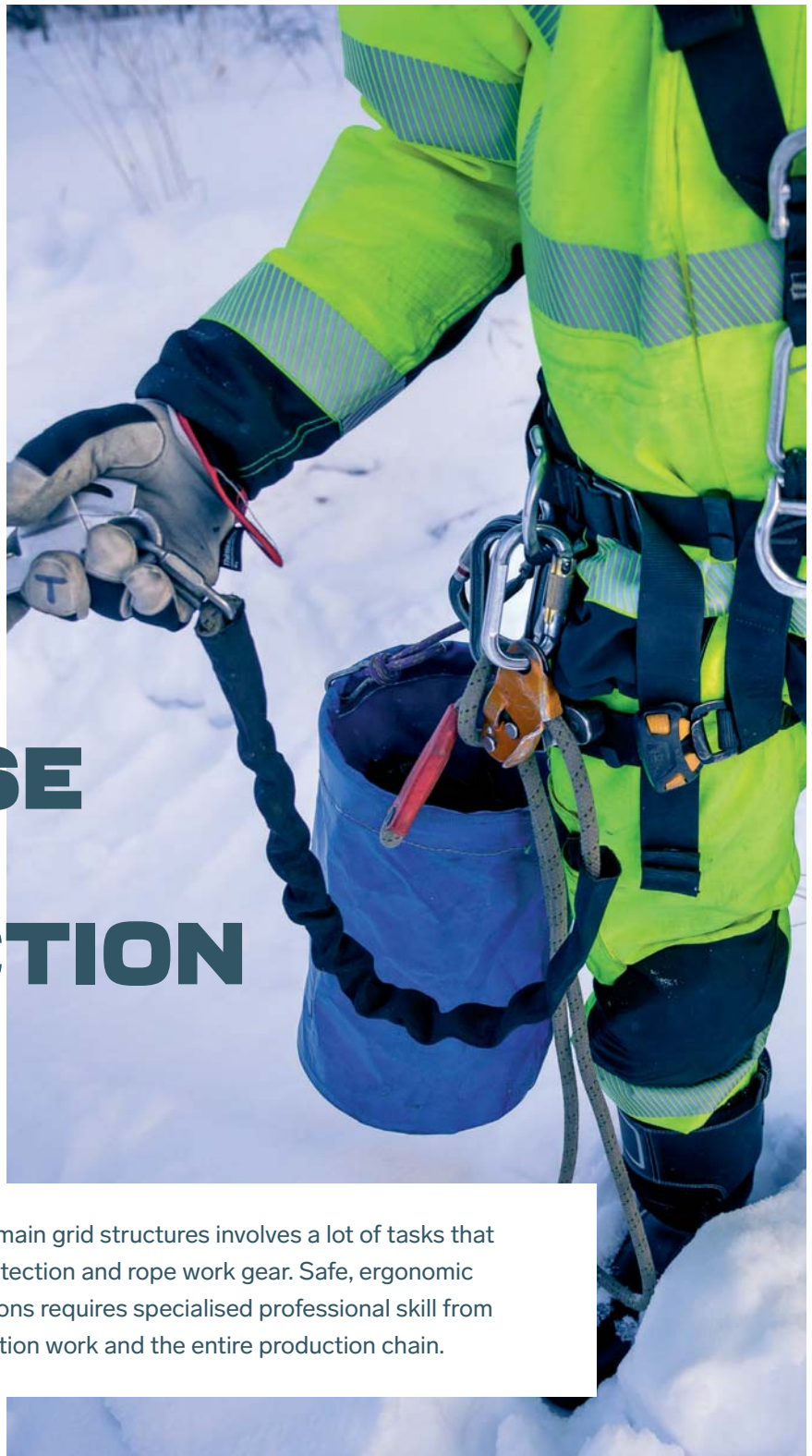
If a person suspected of using intoxicating substances denies the violation and declines from the official breathalyser or blood test, the Client shall ban this person from the site permanently.

The Supplier is obligated to process and communicate the above-described system that aims at promoting safety and preventing the use of intoxicating substances as required by law. ■

# SAFE USE OF FALL PROTECTION GEAR

Text **Esa Kärnä/Kärnä Oy**  
Photos **Matti Immonen**

Maintenance and construction of main grid structures involves a lot of tasks that require the use of personal fall protection and rope work gear. Safe, ergonomic and efficient work in these conditions requires specialised professional skill from the person performing the installation work and the entire production chain.





**T**he foundation for safe, ergonomic and efficient work using fall protection gear is created when planning the structures and arranging competitive bidding for the work. Use of fall protection and rope work gear must be considered one of the work tasks. The simpler these tasks are, the lower the cost of implementation. If we forget to include a work phase or task in the price during competitive bidding, it becomes more difficult to implement this work phase. Specialised professional skills are also required when assessing the dangers associated with these tasks, risk mapping, work method instructions, work supervision and compiling a rescue plan. Sufficient and appropriate training and induction related to fall protection are needed at all levels of the production chain.

### SELECTING A HARNESS

There are a lot of harnesses on the market. When selecting a harness, it's important to consider whether the task will involve being suspended in the harness. If the work requires

support from the harness or suspension in the harness, a harness with a sufficient number of anchorage points suitable for work positioning must be selected for the work. Attention must also be paid to the padding on the waist belt and leg straps of the harness and the required tool-carrying loops. Work positioning harnesses that do not have anchorage points for a fall arrest system are also on the market. A harness with anchorage points for a fall arrest system must always be used in main grid maintenance and construction work.

When selecting a harness, attention must also be paid to how long the harness user will have to be suspended from the harness in an emergency situation. For example, when working from a person hoist, the user is not suspended in the harness, which means that a light, unpadded harness with a fall arrest system is sufficient to prevent falling. However, in a possible fall situation the time required to rescue the patient may be surprisingly long. In this case, it would be better for the patient to be in a sturdier harness rather than a light harness with no padding.



A bosun chair must be used to improve ergonomics when an employee works for a longer period suspended in a harness, and the need to use a bosun chair should also be taken into account when selecting the harness. A bosun chair can be used with all harness types. Some work positioning harnesses have their own bosun chair anchorage points.

### **ANCHORAGE POINTS IN THE STRUCTURES**

Work performed on the structures and fall protection anchorage points must be taken into consideration when planning main grid structures. Fixed fall protection systems and anchorage points for individual fall protection devices should be clearly marked. The marking should indicate the maximum number of systems and anchorage points. The markings for existing systems and individual anchorage points on the structures may be deficient. The structure itself can also be used as anchorage points for fall protection. For example the frame of the tower structure or the lifting point located on the transformer top.

Task-specific work planning and work method instructions play an important role in the use of safe fall protection. Employees must know which structural components are suitable as fall protection anchorage points and the maximum user numbers for fixed fall protection systems.

### **CONNECTION COMPONENTS**

A connection component is a part of the fall protection system by which users connect their harnesses to the anchorage point on the structure. The connection components selected for this purpose must be suitable for the site and task in question. Once again, task-specific work planning and work method instructions play an important role in the use of safe fall protection. It's important to use connection components properly. A connection component that is incorrectly attached to the harness or other misuse can cause serious injury or falling.

The connection components in a fall arrest system always include an energy absorber that limits the fall arrest force experienced by the person to a safe level. When using fall arrest connection components, it's important to ensure sufficient clearance below the user to stop the fall before hitting

a structure. Fall arrest connection components are always connected to the A-marked chest or back attachment point. A decision concerning which of the harness's A-marked attachment points is safer to use must be made on a case-by-case basis.

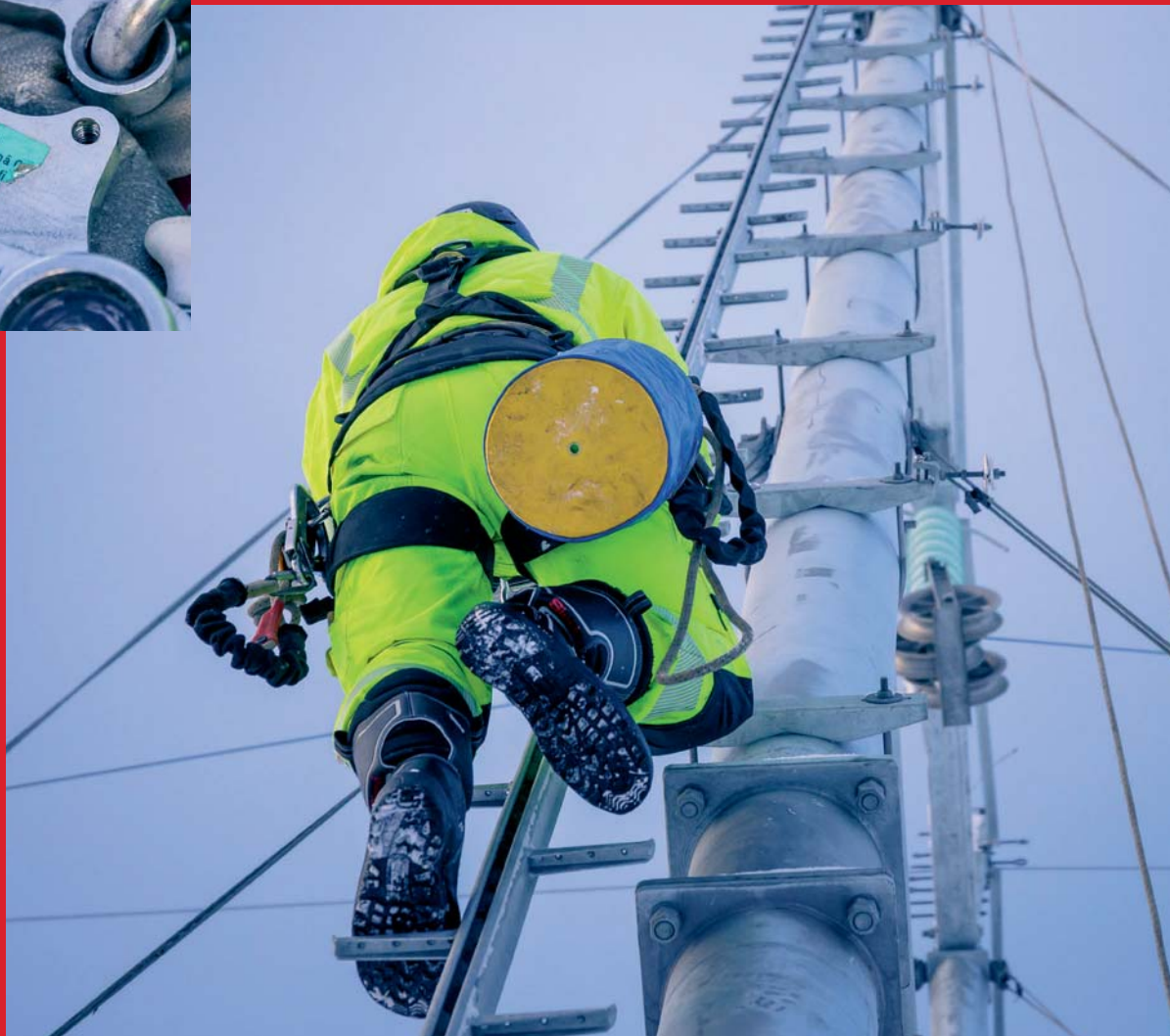
The connection components of a fall arrest system / work positioning system do not have energy absorbers. The connection components in question must be used so that falling is not possible. When using, for example, a support rope the maximum falling distance / slack can be 30-50 cm, depending on the user's weight. This means that the "slack" must always be taken up from support ropes. When using a support rope from the "side attachment point" of a harness, the rope is always looped around the structure and attached to both sides of the harness. If the support rope is only connected to the structure by one of the side attachment points of the harness this may cause a swinging movement that results in serious injury.

### **INSPECTION OF FALL PROTECTION EQUIPMENT**

In the EU area, all category 3 personal protection equipment must be inspected by a qualified inspector at regular intervals (EN 365 standard requirement). Inspection qualification for the majority of fall protection equipment sold by different manufacturers in Finland can be obtained by completing the Finnish Institute of Occupational Health's harness inspector course. Refresher courses are arranged to maintain inspection qualification. Some self-retracting lifelines, rescue equipment and permanently attached systems require the inspector to have manufacturer training/authorisation. The required inspection interval is specified in the company's risk assessment, and is based on how demanding the equipment use and conditions of use are. Manufacturer recommendations for inspection intervals are usually available in the user instructions and warranty. Periodic inspection of the equipment must be performed at least once every 12 months. In addition to periodic inspections, the protection equipment must be checked by the user before and after each use. With regard to the protection equipment being used, employees must have sufficient induction so that they can perform an inspection carried out by the user. ■

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Task-specific work planning and work method instructions play an important role in the use of safe fall protection.



# Planning and monitoring of working at height

Text Risto Uusitalo  
Photo Matti Immonen

Working at height is a key part of building and maintaining transmission lines and substations. Transmission line worksites in particular involve a lot of climbing and work performed without a lift cage because lifting equipment cannot always be transported or safely set up in the terrain.

In the old days – not all that long ago – linemen were admired for bravely climbing into high towers without being constantly attached with safety gear. However, attitudes have changed and today the “Always attached” method and mandatory use of safety harnesses are standard procedure.



Work instructions have been improved and contractors have invested in equipment for climbing and lowering as well as training and medical examinations that include fitness tests. The risk of injury and sudden illness when climbing has been identified and preparations to bring employees down safely in such cases have been made. Each work group has equipment to lower an injured person and at least two people trained in its use, which is also required in Fingrid's contract terms concerning safety.

A significant number of Fingrid's transmission line towers are still old towers with no safety ladders – regardless of whether they are wooden or steel lattice towers. New towers have safety ladders, but when using them there are still situations where the worker has to get off the ladder to continue climbing on other structures, such as the cross-arm or earth wire peak. Moving on the cross-arm is more difficult if the fall protection gear cannot be attached to an overhead life line or drawbars. Descending from the cross-arm to the conductor is always a demanding work phase, especially on towers equipped with composite insulators. Because the cross-arm structures vary, ladders cannot always be used and the descent to the conductor is often done as rope work. Conductor work involves moving along the conductors with a spacer cart. Getting into the cart and moving it past the tower are work phases that require a lot of precision.

### **A NEW REQUIREMENT FOR A FALL PROTECTION PLAN**

The primary consideration when planning and providing instruction on fall protection must be how to prevent falls. However, it's also necessary to prepare for falling and choose the right climbing equipment in order to minimise the effects of falling.

Planning must be able to take into account different structures and fall protection attachment points: are workers using safety ropes wound around the structures or metal locking hooks equipped with an energy-absorbing lanyard on a rope when no safety ladders are available? Can a self-retracting lifeline be used when working in one place?

A new requirement in Fingrid's contract terms concerning safety requires contractors to prepare a written fall protection plan for working at height. The plan must describe the personal protection gear used to prevent falling, structures

and fall protection attachment points, safe movement on the structures and climbing/descending, rescue of an injured person, and the qualifications for people working at height. The supplier must review the fall protection plan with all people who participate in the work at the start-up meeting for every work phase that requires climbing.

### **START-UP MEETING AND COMPETENCE TESTS ENSURE SAFE WORK**

Since there are different types of transmission line towers and tower erections are performed in many different ways, it may be a long time since an employee has last worked on a similar site and performed a similar task. A start-up meeting for erection is always held with the work group or groups, and it must include a theory segment and a practical segment. The contract terms concerning safety require that the first tower erection be performed as part of the tower erection meeting and the fall protection plan and safety ladder inspection be reviewed at the same time.

The fall protection plan must be reviewed at the conductor work start-up meeting held prior to beginning conductor work. Since descending to conductors is always difficult, especially due to the range of different structures, the fall protection plan must also describe the process of descending to the conductors.

Transmission line work is physically demanding, and thus a medical examination to ensure suitability and regular monitoring examinations are required for people working on towers. Workers under the age of 40 must have a monitoring examination every third year and those over 40 every second year.

Transmission line work also requires precision and safety simply because the work is often performed in places outside the range of the rescue service. Competence tests play a major role in ensuring safe work. The contract terms concerning safety require that, prior to starting tower work, a competence test must be completed for additional earthing for work, use of safety equipment, safe movement in a tower, and lowering an injured person. Before working with wooden towers, individuals must also complete a competence test demonstrating that they can climb a wooden tower. Competence tests must be retaken each year, and the supplier must appoint a qualified person to supervise the tests. ■



FROM THE SERVICE PROVIDER

# Safely in towers

## – case Eltel Networks Oy

Text **Juhani Kamila**, HSEQ Manager, Eltel Networks Oy

Photo **Henri Malinen**

Good planning, risk assessment and observing instructions are the starting points for working at height, writes **Juhani Kamila** from Eltel Networks Oy.

**B**ased on statistics, slipping and falling are the biggest risks at Eltel worksites. However, the most serious risks in the industry are related to working at height and electrical work. In terms of numbers, Eltel has suffered very few serious occupational accidents in transmission line work. This is certainly the result of comprehensive occupational safety instructions, regulations and training sessions as well as the employees' instinct for self-protection. When working high on a transmission line tower in cold weather, ensuring that fall protection is properly attached comes naturally to employees because even a small mistake can have serious consequences. However, it is necessary to constantly update methods and instructions to prevent falling, and provide training and induction so that a complacent attitude or a new employee's lack of knowledge does not cause unnecessary danger situations and accidents.

### EVERYTHING STARTS WITH GOOD PLANNING

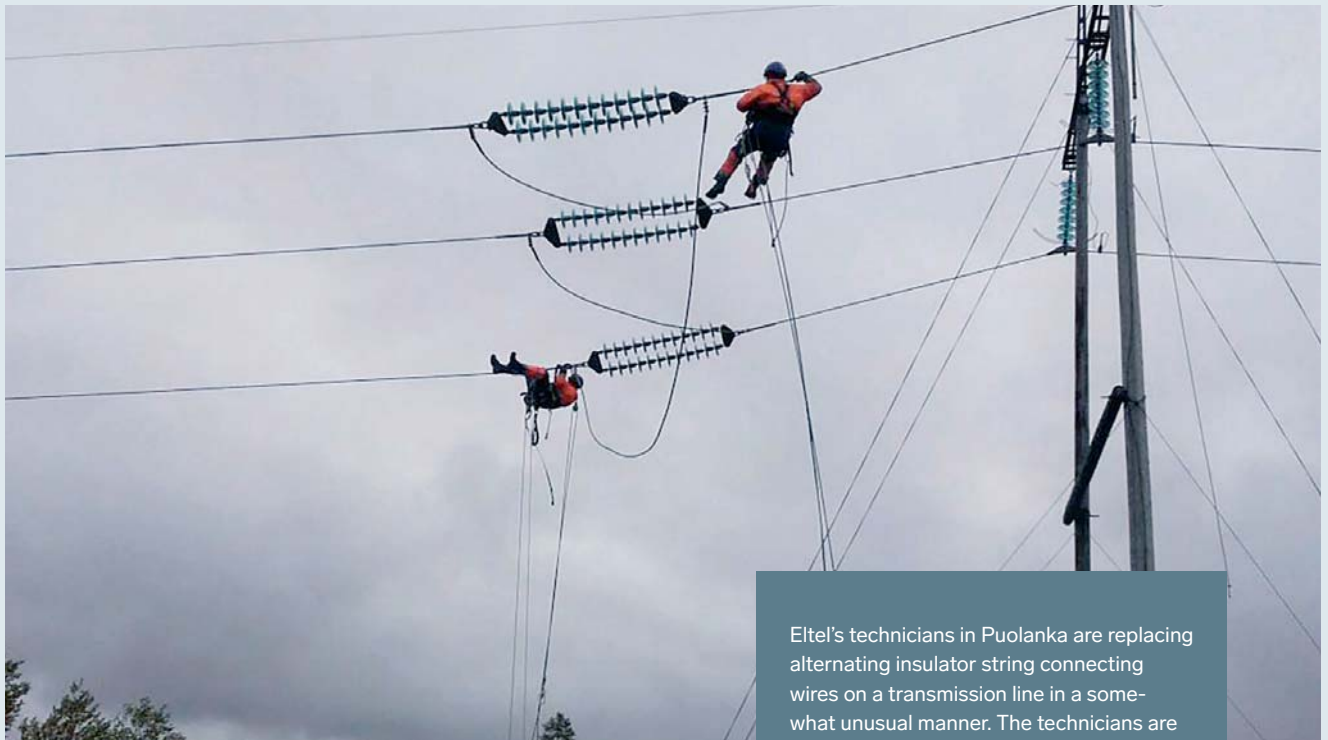
All work begins with work planning, resourcing and assessment of occupational risks. The work methods are selected on the basis of this and the work is performed according to plan. Before work in a tower begins, we ensure that the employees have sufficient qualifications to perform the work and they have passed the statutory medical examinations and fitness tests. First aid and descent training for possible emergencies must be completed by all Eltel employees

who perform tower and mast work. All employees must use personal protection gear that has been inspected and complies with the instructions. When working in transmission line maintenance work or near transmission lines, employees must also ensure that the site is de-energised, earthing for work has been done and activities comply with other electrical safety regulations. All employees must also have a person to provide them with induction in accordance with the requirements of the employer and the client. New technicians who come to work on the transmission line side usually have experience of similar work on the electricity distribution grid side.

### THE ALWAYS ATTACHED PRINCIPLE ON STRUCTURES

The aim is to perform work on transmission line towers or lines as lifting basket work whenever possible. In many cases, this is not possible because a lift vehicle cannot get to the tower location or the work being done on the transmission lines lasts such a short time (for example, installation of a vibration attenuator) that it would not be cost-effective. In this case, the towers have to be ascended using climbing irons or a ladder system, depending on the material of the transmission line towers. Regardless of the method used, the "always attached" method must be observed, which means that the employee is at all times attached to durable structures with fall protection gear that prevents falling.





Eltel's technicians in Puolanka are replacing alternating insulator string connecting wires on a transmission line in a somewhat unusual manner. The technicians are attached to the conductor with harnesses and suspension seats and they are using lowering ropes and lift handles.

The most important consideration when climbing a tower is to ensure the always attached method by connecting to the tower's safety system, a ladder or, when using climbing irons, crossing the support belt across the upper body or wrapping it around the tower twice to prevent falling. When positioning for work on wooden towers, fall prevention should always be ensured by attaching a support belt or strap to the tower structures. Of course, climbing irons, support belts and fall protection gear must be appropriately inspected at regular intervals and approved for use. Prior to starting work, Eltel employees also assess the risks of their own work, a process that involves evaluating the safety of the work method being used and other danger factors affecting the work.

### **WORK METHODS ARE SELECTED VIA RISK ASSESSMENT**

Several work methods are used in transmission line work – the selected method depends on what is being done. All the methods are described in detail and the documents are

saved in the same online database, so the suitability of different work methods can be evaluated in the work planning phase. For example, employees usually climb to a conductor in transmission line towers along the insulator string, but sometimes they can also descend to the conductor with a rope and lift handle.

Regardless of the work method, the work must always be carefully planned in advance. The right work method is selected via the risk assessment for the site. The prerequisites for performing the work must be in order and the entire work group must be aware of the occupational safety requirements for the site in question. The most important matters when working on transmission line towers and lines are to ensure electrical safety and comply with instructions related to working at height. Prior to going up a tower, make sure that your own equipment is in order and then check your co-worker's gear. A safe work environment is created together. ■



*Pertti Menonen*  
Empower PN Oy

*Tomi Salonen*  
Empower PN Oy

## Recognition for active work on behalf of safety

Text **Suvi Artti**  
Photos **Karri Koskinen and Martina Kenji**

Fingrid rewarded service providers that achieved good occupational safety results in January. The Alajärvi 400/110 kV substation project implemented by Empower PN Oy was recognised as a whole. Dalekovod's safety supervisor **Nenad Medelić** received a special recognition for occupational safety work in the Lieto-Forssa transmission line project.

**T**he grounds for the prize awarded to the Alajärvi substation project emphasised the project organisation's commitment to occupational safety and its outstanding attitudes, which were manifest as a good level of occupational safety and positive safety culture. The project did not have a single lost-time injury or serious near miss situation. According to the ground, "the worksite management actively reported to the client concerning near miss situations, safety observations and toolbox talks held at the worksite. The danger factors and deficiencies observed in the project were corrected effectively."

"It was wonderful that the whole project, which had well over 100 employees, was recognised. This honour belongs to all of them," say Worksite Manager **Tomi Salonen** and Project Manager **Pertti Menonen** from Empower.

They explain that in recent years Empower has done a lot of work to improve occupational safety, which has been identified as one of the company's foundations. Empower's accident frequency has dropped clearly, and it was 4.8 in 2017.

## CAKE TO CELEBRATE ZERO ACCIDENTS

Tomi Salonen considers good listening skills to be one of the most important qualities in a worksite manager. He believes that it's important to talk with contractors well before the start of each work phase and listen to their views on the best way to carry out the work.

"When we discuss things early enough, people have time to internalise them before starting the work phase. By the time we hold the official start-up meeting, they already have a clear picture of how the work will be performed," says Salonen when describing his proven method.

Anticipation was particularly important when Alajärvi had several work phases active at the same time. The project involved simultaneously building a new substation and renewing an old one. Coordination of the work required a lot of thought and planning as well as continuous risk assessment.

Salonen also emphasises the importance of good team spirit when creating a positive safety culture. Every time the project reached 100 days without an accident, he brought a cake or fired up the barbecue at the worksite barracks. "It's a good idea to stop and consider what has been achieved," he states.

The worksite celebrated zero accidents a total of five times, and a sixth occasion wasn't far off – the project lasted for 596 days.

## DEVELOPMENT IDEAS ARE ALWAYS WELCOME

As the client, Fingrid was very satisfied with the development ideas that Empower provided during the project. Tomi Salonen explains that he actively considered whether the work methods used at the worksite could be replaced with new and better ones while still maintaining the same safety level. He appreciates the fact that Menonen and the Fingrid representatives encouraged new ideas.

"Pertti has been a real driver, and his positive approach has kept the wheels of development turning. Fingrid also deserves credit for recognising the new ideas developed during the project," says a grateful Salonen.

Cooperation between the client and supplier went smoothly throughout the project. "Fingrid has a firm but constructive approach. Being able to provide constructive feedback shows that the client cares," says Pertti Menonen.

## EXEMPLARY SAFETY WORK IN A TRANSMISSION LINE PROJECT

HSE supervisor Nenad Medelić from Dalekovod j.s.c. was recognised for outstanding occupational safety work and reporting in the Lieto-Forsssa transmission line project. According to the grounds, he actively reported about danger factors: approximately 10% of all dangerous situation notifications submitted to Fingrid in 2017 were made by Nenad.

The Lieto-Forsssa transmission line project ran smoothly, even though Nenad Medelić says that it also faced challenges, such as delays caused by the weather. Careful planning made it possible to deal with these situations. "It's important for the safety supervisor to be consistent, open and proactive, and ensure that people comply with what has been agreed," says Medelić as he describes the qualities of a good safety supervisor.

According to Medelić, cooperation with Fingrid worked well. "**Antti Linna**, who worked as Fingrid's project manager and safety coordinator, did outstanding work," says Medelić.



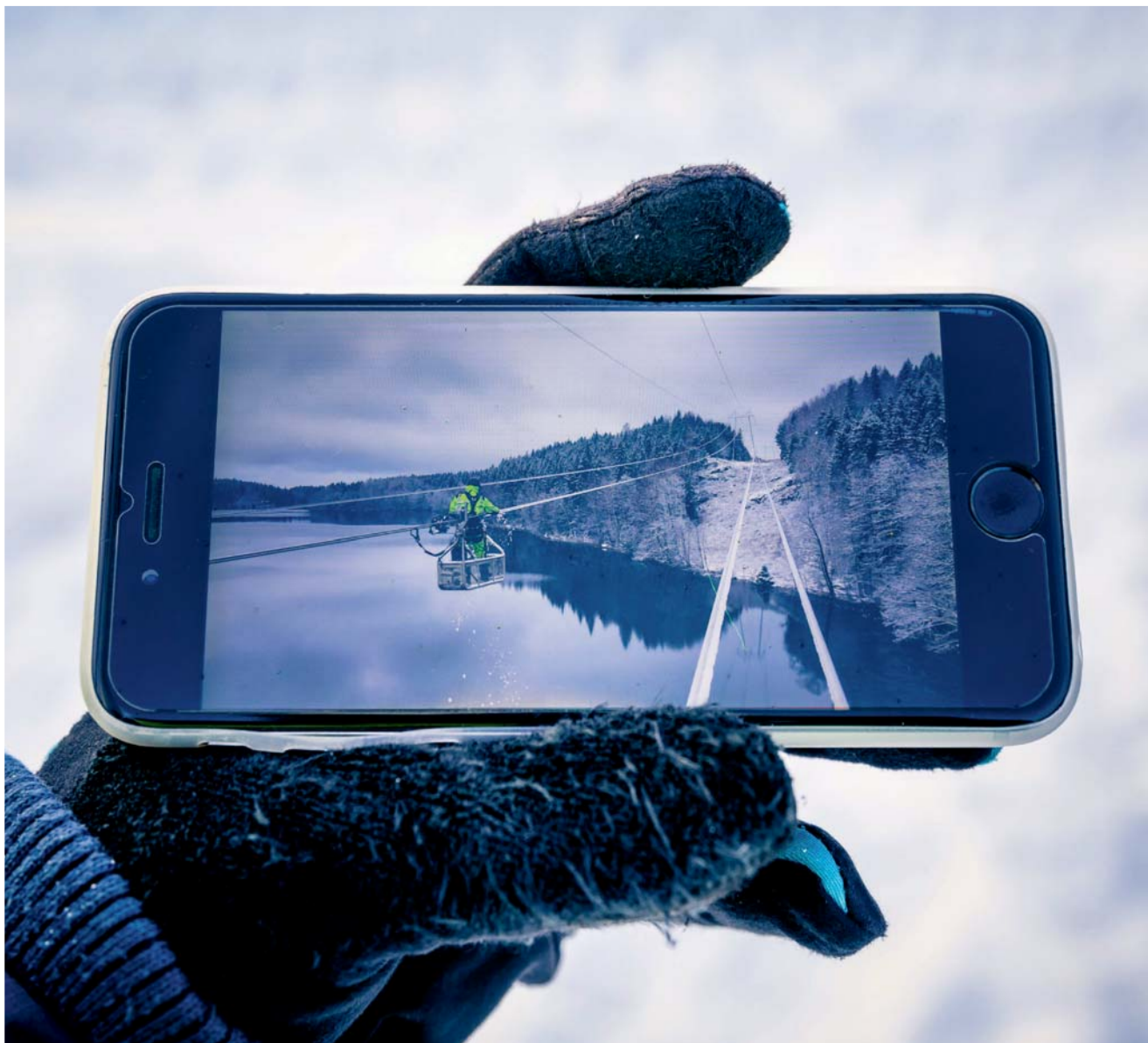
**Safety is vital and the work done to promote it should never be taken for granted.**

*Nenad Medelić*

## STRENGTH FROM FINNISH FORESTS

Nenad Medelić says that people are at their best when they get to do the work that most interests them. "Dalekovod lets its employees do what they like as long as it promotes the common good. I'm happy when I get to be in the Finnish forest," says Medelić, who is from Croatia.

He believes in the power of positive feedback. "Safety is vital and the work done to promote it should never be taken for granted. People don't work just to earn money; they want to know that the work they do is important. Companies should reward individuals and teams that achieve good occupational safety results more often." ■



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