

Asset management / Koskinen Karri

31 May 2018

## Suppliers' occupational safety group

Time	31 May 2018, 9:00–16:00
Place	Duetto Business Park Läkkisepäntie 23, 00620 Helsinki Meeting room Duo
Present	Marko Elorinne, Eltel Networks Oy Kimmo Honkaniemi, Caverion Suomi Oy Juha-Matti Huhtanen, ABB Oy Toma Karkkulainen, Vattenfall Services Nordic Oy Janne Ketola, Infratek Finland Oy Markku Linnanen, Siemens Osakeyhtiö Teemu Palosaari, Destia Oy Timo Pekonen, Empower PN Oy Erkki Pusa, VEO Oy Jani Rintala, TMV Line Oy Pasi Lehtonen, Fingrid Oyj Karri Koskinen, Fingrid Oyj Juha Pikkupeura, Fingrid Oyj
Absent	Mikko Hakala, TLT-Building Oy

## Agenda

### 1 Meeting arrangements

Karri Koskinen acted as both Chair and Secretary for the meeting. It was agreed that a memorandum of the meeting would be drawn up and sent to the participants for commenting. The memorandum and other materials used in the meeting will be published on the Fingrid website.

In addition to the occupational safety group's regular members, Fingrid Project Manager Juha Pikkupeura also participated in the meeting.

At the beginning of the meeting, participants were reminded to adhere to the guidelines of competition legislation both during the meeting and on breaks, and to only discuss matters relating to occupational safety.

### 2 Memorandum for the previous meeting

We went through the [memorandum](#) for the previous meeting.

**We discussed the installation of safety ladders in substation portals.** In principle, safety ladders will not be installed into portals. However, safety ladders will be installed in many projects in case a portal is also fitted with a camera or a light fixture. The positions

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for cameras and light fixtures should be planned in such a way that there is no need for climbing or a suspension of service in order to carry out maintenance work. Camera/street posts would be suitable for this purpose. These should be piloted as part of a suitable project and factored in at the preliminary planning stage. It was agreed that Juha Pikkupeura would promote such piloting at Fingrid.

**Not all transformer covers have fixed attachment points for safety harnesses.** At such sites, safety can be ensured by using scaffolding or temporary safety harness attachment points. Safety at sites where there is a risk of falling must always be planned site-specifically.

**We concluded that skills tests should be carried out annually, as it has been.**

**A notice stating the functional shortcomings and usage limitations of the Dehn remote voltage detector at Fingrid sites has been sent to suppliers via NordSafety.** This has not posed a challenge to the suppliers.

**It was generally concluded that equipment manuals should be received in Finnish and that equipment should be sufficiently labeled.** Labeling is not always standard and Finnish instruction manuals are not always provided with equipment. However, it was concluded that this is not a risk as such, as the users of the equipment are industry professionals and will always train themselves on the use of new equipment. New equipment has also been found safe to use by the Person in charge of electrical work. The suppliers requested that the Fingrid specifications would in the future include requirements for user and installation manuals in Finnish. However, translations also carry a risk, as they may not be updated when changes are made to the original manuals.

**We discussed the Fingrid project Structural Safety When Working at a Height.** There is no existing template for the fall protection plan drawn up by the suppliers. The requirements for the plan are outlined in the contract terms concerning safety. It was agreed that the suppliers' occupational safety group would draw up a template for the fall protection plan. It was agreed that Janne Ketola and Toma Karkkulainen would present fall protection plans as an example at the meeting.

**Element installation plans** and random checks carried out by the Regional State Administrative Agencies at construction sites were discussed. In general, the occupational safety of element installations requires improvement. It was agreed that Erkki Pusa would prepare a presentation on the occupational safety and responsibilities (planner/supplier) of element installation for the suppliers' occupational safety group.

**It was concluded that a contract on the transfer of responsibility must always be made when a substation project is completed, put on hold or when a new main implementing party enters the site.** A contract on the transfer of responsibility must always be made e.g. when a site is handed over to maintenance. General practices for the transfer of responsibility should be agreed on and a template for the transfer of responsibility drawn up. It was agreed that Karri Koskinen would prepare a draft contract template for the transfer of responsibility. This draft will be assessed by the suppliers' occupational safety group and a NordSafety form will potentially be generated on it.

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**The group presented the request that July should be made a summer holiday month.** His was responded to with the notion that it is the employer's responsibility to define holiday periods.

**Maintenance checks carried out on transmission lines to be uninstalled were further discussed.** The suppliers request that tender materials include information on which posts are safe to climb and which are not. The suppliers also request that a maintenance check is carried out on transmission line to be uninstalled.

It was agreed that a proposal would be prepared for a draft text on contract terms concerning the safety of taking down supports. E.g. "Wooden supports must primarily be taken down using a boom lift, unless a risk assessment states otherwise." Karri Koskinen will submit a proposal for this addition to be assessed by the Fingrid transmission line team. Proposal to be addressed in the next meeting.

**End plates of relay boxes were discussed.** It was concluded that these should be ordered project-specifically. Juha Pikkupeura will look into whether these could be introduced to the substation project description template.

**There was also a discussion on how to involve subcontractors in occupational safety activities.** For this, it is crucial to ensure an effective chain of communication between the contractor and the subcontracting suppliers.

**A list of training events organised by Fingrid was requested.** Maintenance already has one.

### 3 Current issues for occupational safety / Karri Koskinen

Karri Koskinen delivered a presentation on current occupational safety issues.

**Fingrid's intervention practices were further discussed.** It was concluded that intervention practices do not apply in instances where a supplier notifies Fingrid of a safety deviation using e.g. an MVR measurement or a safety observation form.

**Personal safety gear was discussed.** Employees should be made aware of the reason safety gear is used: Not because they are required, but for their own safety. It was also concluded that at sites where there is a risk of an electric arc forming, fire-resistant clothing should be worn. There was also a discussion on how the requirement for attention clothing having reflective qualities is legally determined.

**It was concluded that safety goggles should always be worn at construction sites.** In case the site in question is not a construction site, this must be clearly documented. Safe zones at a construction site where wearing safety gear is not required must be clearly stated in writing (e.g. parking areas). Wearing personal safety gear is a legal requirement. Suppliers in the group commented that too much attention is being given to personal safety gear, and that the focus should be on safe working practices instead.

**The suppliers requested that Fingrid continues distributing its quarterly occupational safety report.** For class A events, a summary is always sent out to the

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suppliers. The suppliers request that they are also informed of class B events. The objective is for the suppliers to always read through the summaries and the included occupational safety reports for employees.

**It was agreed that suppliers would address the incidents and near miss reported in the occupational safety summary discussed at the meeting within their respective organisations.** It was agreed that Pasi Lehtonen would compile a summary of a near miss where there was a need for outage for two transmission lines in shared support, but where due to a lack of information, outage was taken only one of the lines. It was agreed that the incidents and near misses addressed at the meeting would be added to the NordSafety documents file.

**Blasting was discussed**, and it was concluded that suppliers must define safe zones and ensure sufficient instructions and training for blasting.

**It was concluded that suppliers should have action instructions for violent and threatening situations.** Employees who may be involved in violent and threatening situations must be familiarised with these instructions.

#### 4 Dismantling work at substations / Markku Linnanen

Markku Linnanen delivered a presentation on dismantling work at substations.

There was a group discussion on how **project descriptions should have appointed persons responsible for the surveying/disposal of harmful substances**. The commissioner is responsible for ensuring that asbestos surveys are carried out.

**Small-scale dismantling work was discussed**, including the dismantling of certain foundations, with the conclusion that in such cases all waste must be properly recycled and no waste may be disposed of in a skip. Skips must always be situated away from elements carrying an electric charge. It was concluded that skips containing batteries must always be covered and suitably labeled. All dismantling work plans should have appointed inspectors.

**Dismantling work at substations must take into account the compatibility between the additional earthing plan and the dismantling plan** as well as the replacement of earthing as the dismantling work progresses. When using a company specialised in dismantling with no electrical know-how, the employees of said company must be carefully familiarised with risks involved with electricity. Such persons may not carry out any electrical work, and all separations must be carried out by testers.

**Unstable brick walls may cause a hazard during dismantling work**, and therefore they must be sufficiently supported. Dismantling work surrounded by electrical circuits was also discussed.

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## 5 Working underneath and close to live lines / Jani Rintala

Jani Rintala delivered the following presentation: Working underneath and close to live lines.

It was concluded that **the stickers stating safe distances to live elements handed out during the hengenvaara.fi campaign have been very useful, and it was requested that equipment would continue to have them.** Karri Koskinen will check with Fingrid to see if they still have these stickers.

**There was a discussion on the limiting devices installed in equipment used for working with transmission lines.** Mechanical and hydraulic limiting devices may otherwise limit the use of equipment. It was proposed that equipment should be installed with a buzzer that goes off if e.g. a boom exceeds a certain height. There should be a survey into the risks that limiting devices may cause.

It was concluded that e.g. in dismantling work, automatic reclosing should be switched off in case equipment may come in contact with elements carrying an electrical charge if they fall over.

**Cargo deliveries to transmission lines were discussed.** It was concluded that the main contractor may store cargo in a right-of-way. When cargo is stored in a right-of-way, careful safety training is highly important. The main contractor must ensure that there is someone to meet a new material supplier when cargo is delivered underneath transmission lines. It was concluded that material suppliers' personal safety gear may be lacking due to long communication chains. Therefore, the communication of safety requirements must be enforced. It was concluded that persons not wearing sufficient safety gear must not be admitted onto a construction site.

**Additional earthing was discussed.** Adherence to regulations concerning additional earthing must be ensured at all times and at every stage of construction. Map or table templates are generally used for planning additional earthing. It was concluded that additional earthing plans must be clear and all related registers in order. There was also a discussion on whether there should be uniform rules for marking earthing. Fingrid has piloted GPS location services for this purpose, but it did not fulfil Fingrid's requirements. Fingrid has produced four training videos concerning additional earthing. These videos will be made available to suppliers in e-school.

It was generally concluded that **distribution interruption should always be requested if necessary.** As a general rule of thumb, an ordinary person should always keep a minimum distance of 5 metres to lines carrying an electrical charge. As a suggestion for improvement, the suppliers proposed that in case piling needs to be carried out under transmission lines, the power lines should have no electrical charge. The height of transmission lines should be measured in advance so that the time for the required outage is known. Additionally, it is important in terms of occupational safety to always ensure the true height of lines when work is commenced, as this may vary substantially. It was also concluded that any work carried out by ordinary person should only take place under power lines with no electrical charge.

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**The following subjects for improvement were identified in Jani Rintala's presentation and during the meeting:** Attitudes, training for safety distances (particularly machine operators), electrical safety license requirements for subcontractors, added use of safety distance watch, added use of limiting devices, distance gauges for the work group, outages, taking into account the old height of transmission lines in general planning (planners should have construction know-how) and the distribution of safety leaflets at construction sites.

## 6 Use of a personal boom lift at transmission lines / Marko Elorinne

Marko Elorinne delivered the following presentation: Use of a personal boom lift close to power lines.

**The suppliers still request an evaluation of work carried out from a personal boom lift.**

**Working from a personal boom lift was discussed.** According to the suppliers, the boom lift baskets should have more attachments for safety harnesses. The gripping devices equipped with pull shock absorbers have received negative feedback relating to work carried out from a personal boom lift. There was also discussion on the length of safety ropes in the boom lift baskets, and whether safety rope length should be pre-determined for suppliers.

**Rental boom lifts don't always have attachments for equipment earthing.** Suppliers must require rental equipment that has sufficient attachments for earthing. A discussion of whether a change in rental equipment has been achieved to be added to the next meeting's agenda.

**Mobile cranes must be frequently moved around on site** so that all work can be carried out. This may cause risks e.g. in terms of the ground's load-bearing capacity. Additionally, working in a boom lift basket, potentially climbing from there onto a support, numbers of people in a boom lift basket at the same time and risk assessment was discussed. A personal boom lift must always be operated according to the instruction manual.

## 7 Next meeting

The next meeting will take place on 7 November 2018. The next meeting will potentially be hosted by Caverion Finland Ltd. Kimmo Honkaniemi will confirm this.

Agenda for the next meeting

- Use of personal boom lifts at substations / Juha-Matti Huhtanen
- A review of installation lifts / Karri Koskinen

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- Traffic arrangements and road, railway and intersection crossings / Teemu Palosaari
  - Fingrid procedures / Karri
- Protection of cable channels (Fingrid's view) / Karri
- Occupational safety and responsibilities for element installations (planner/supplier) / Erkki Pusa
- Contract for the transferal of the main contractor responsibilities / Karri
- Changes to contract terms concerning safety / Karri
- Attachment points for machinery earthing in personal boom lifts / Suppliers