

Asset Management / Koskinen Karri

27 March 2019

Suppliers' occupational safety group

Date and time	27 March 2019, 9 am–4 pm
Venue	Fingrid Oyj, Lakkisepäntie 21, Helsinki, Finland
Present	Marko Elorinne, Eltel Networks Corporation Kimmo Honkaniemi, Caverion Suomi Oy Juha-Matti Huhtanen, ABB Oy Erkki Pusa, Vattenfall Services Nordic Oy Markku Linnanen, Siemens Osakeyhtiö Teemu Palosaari, Destia Ltd Timo Pekonen, Empower PN Oy Aleksi Peltola, VEO Ltd Jani Rintala, TMV Line Oy Pasi Lehtonen, Fingrid Oyj Karri Koskinen, Fingrid Oyj Jarmo Henttinen, Fingrid Oyj (9 am–11 am) Markku Pöysti, Fingrid Oyj
Absent	Janne Ketola, Infratek Finland Oy Mikko Hakala, TLT-Building Oy Toma Karkkulainen, Vattenfall Services Nordic Oy

Agenda

1 Meeting arrangements

Karri Koskinen acted as the chair and secretary. It was agreed that minutes would be taken at the meeting and sent to the attendees for commenting. The minutes and other materials used at the meeting will be published on Fingrid's website.

In addition to the ordinary members of the occupational safety group, the meeting was attended by Fingrid's Project Manager Jarmo Henttinen and Safety Specialist Markku Pöysti, as well as Erkki Pusa from Vattenfall Services Nordic Oy, standing in for Toma Karkkulainen.

Aleksi Peltola represented VEO Ltd in the suppliers' occupational safety group.

At the beginning of the meeting, the attendees were reminded of the need to comply with competition law during the meeting and break times and that they should only discuss occupational safety matters.

2 Minutes of the previous meeting

It was agreed that the minutes of the previous meeting would not be reviewed in full. Only the matters agreed during the previous meeting were reviewed:

A special condition inspection approximately one year before the planned demolition contract.

- The group clarified that “condition inspection” refers specifically to rot inspections on wooden towers and that information on the condition of steel towers is also important. The group considered how to ensure that the project’s working group is capable of conducting rot inspections.
- The suppliers still hope to receive condition information from Fingrid when Fingrid requests tenders so that the requirements for safe demolition methods are the same for every supplier. It was agreed that the matter would continue to be processed internally by Fingrid. The attendees were reminded that the provision of condition information shall not affect the supplier’s obligation to inspect towers before ascending them.

Prohibiting the use of old foundations for temporary support.

- The group did not support a prohibition on using old foundations to provide temporary support. It was stated that in the absence of a report on the foundations, they should not be used to provide temporary support. It may be possible to use old foundations for temporary support if a separate risk assessment is conducted and safety measures are taken, such as a trial feed-through of cable.
- The suppliers expressed the wish that reports on the foundations would be appended to the request for tenders. Karri Koskinen reminded the attendees that suppliers must also be active in requesting supplementary information if any information is missing in the request for tenders. It was agreed that Karri Koskinen would inform Fingrid’s project managers of the request to ensure that all available reports on foundations are appended to requests for tenders and, if necessary, entries are made in the safety documentation.
- The suppliers reminded the attendees that unless the beams on Fingrid’s towers are supported with cables tightened on one side, the beams may become warped. This cannot be corrected at a later stage. This does not cause a hazard, but it is an aesthetic issue. Suppliers should take this into consideration when working on projects.
- The suppliers also reminded the attendees that there must be installation and lifting instructions for standard portals, elements and towers.

Inclusion of sub-suppliers in meetings of the suppliers’ occupational safety group.

- It was agreed that Aleksi Peltola and Marko Elorinne would each invite one sub-supplier representative to the next meeting.

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Classifying occupational safety observations and near misses into work phases in the occupational safety report.

- The classification of Quentic safety observations/near misses is currently under development. The work phases will be added to the report forms, and this will make it easy to classify them in the occupational safety report. The suppliers reminded the attendees that testing should be established as one of the work phases.

Old earth connections on transmission line projects where a new line is built to replace an old line: Demolition, connection and earthing protocols.

- This matter is being handled by Fingrid's transmission line team. Pasi Lehtonen will ensure that this matter progresses.

There was also a suggestion of adding the cable height measurement report to Quentic.

- This suggestion was not supported in the suppliers' occupational safety group for several reasons, one being that the information is not needed after the work is completed, and this can be entered elsewhere. In addition, employees do not generally have user accounts to access Quentic.

On particularly challenging/hazardous sites, the risk assessment should be prepared in writing. A work risk assessment form will be made on Quentic.

- The form has been made. In the suppliers' opinion, the form should be deployed immediately.
- The group discussed whether site managers should attend kick-off meetings for particularly hazardous work/sites when the risk assessment is reviewed.
- The suppliers use paper notebooks, and some also have electronic systems, for recording the hazards identified by employees on worksites. All new risks identified on a worksite should be processed by the site management, even if the employees are the ones who identify them. It was agreed that Karri would draft a hazard identification form on Quentic. An open link should be made available so that employees on worksites can use this. All of the suppliers accepted Fingrid using their existing hazard identification forms as the basis for the Quentic form.

Safety clearance stickers to be appended to the brochures on working safely on transmission lines and in substations.

- The stickers are coming soon, and the work is in the drafting phase. Mikko Jalonen is responsible for implementation, and Pasi Lehtonen is responsible for monitoring.

The suppliers expressed the wish for information on piling under live wires and outages to be included in the material in the request for tenders. It would be good if piling work took place during outages.

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- It was stated that the need for outages is generally included in the material in the request for tenders. There was a discussion on whether the request for tenders should include information on which switchyards and wires could be disconnected for certain work such as piling and excavating.
- If the suppliers have questions concerning outages, they should be active in requesting additional information during the request for tender phase. The suppliers stated that this might present a challenge with scheduling.

It was stated that the safety observation campaign included a week focusing on personal protective equipment in 2018 as agreed.

As agreed, the suppliers had informed their organisations in 2018 that cleaning should take place on worksites before the first snow in order to reduce the risk of slipping and tripping.

Clear information for waste management drivers and other drivers stating when the online training should be completed and which modules must be completed.

- If drivers of waste management or cargo vehicles are under supervision in the area and/or the risk assessment specifies that the location of the unloading/pick-up area cannot give rise to a hazard and the area is not near live components, there is no need to complete the online training.
- In other cases where the online training is required, Fingrid will work with the waste management provider to ensure that it is completed. This will be communicated to Fingrid's contact person for agreements.

The suppliers expressed the wish for the online training to send an automatic notification when the completed courses have expired. This has been done as agreed. The online training sends users a reminder one month before the Fingrid safety rules and safe working methods module expires. The online training modules expire after three years, and records of past course completions are automatically reset.

The suppliers unanimously agreed that people under the age of 18 should not be categorically prohibited from working on Fingrid's sites. In line with the suppliers' wishes, Fingrid rephrased the section of the contract terms: *The Supplier shall pay special attention to the health and safety of young employees. The Supplier shall comply with the Young Workers' Act if the Supplier uses young employees. The Client must always be consulted for approval before young employees are used on the Client's sites.*

3 Fall protection plan at Substations (Janne Ketola)

It was agreed that this would be postponed until the next meeting because Janne Ketola was unable to attend the meeting.

4 Work machinery earthing point for personnel hoists (all)

One supplier had contacted a machinery rental company, which had declined to attach work machinery earthing points to personnel hoists. It is challenging to attach earthing

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points to work machinery because there is no advance information on which business location will supply the personnel hoist. For this reason, it is not possible to demand that earthing points be attached to certain machines only. The suppliers did not consider this a major problem. It was agreed that the suppliers would continue communicating this matter to renters of personnel hoists.

5 Status of installation lifting (Karri Koskinen)

Fingrid's policy on installation lifting was reviewed in brief. It was stated that there were no grounds for altering the policy. The policy will not be altered.

6 Traffic arrangements and crossing roads, railways and junctions (Teemu Palosaari)

Teemu Palosaari gave a presentation: Traffic arrangements and crossing roads, railways and junctions.

The group emphasised the fact that Amka cables should not be handled when live. Temporary cables should be installed in such a way that they do not cause a hazard. The suppliers considered it difficult to influence the way local network companies install temporary cables because they may be installed when nobody is on the worksite. In such cases, the supplier needs to contact the network owner and attempt to agree on protective measures. The cables should be fenced off, crossing locations should be designated, and hazard signs should also be fitted.

The group discussed whether it would be good practice to contact pipe owners to agree on the necessary measures if there are natural gas pipelines on a worksite.

Underground cables can give rise to hazards on Fingrid's worksites. Suppliers should request a cable demonstration and coordinates of the routes of cables from the party that owns them. It was stated that it is difficult to scan for and detect fibre cables. The suppliers have also found cables in the vicinity of old tower foundations. Underground cables have given rise to hazards during demolition work, and some near misses have also occurred.

Teemu gave a presentation reviewing the principles of working in railway areas. Everyone who works in a railway area must first complete the railway safety training, including supervisory personnel.

One of the suppliers had experienced a near miss at a railway crossing approximately ten years ago. A train came down the track, even though no trains were supposed to have used the line in the entire week, according to the Finnish Rail Administration, which was the supervisory body at the time.

It was stated that there had been no near misses on road crossings recently. However, in the last few years, there have been some cases where third parties have been in hazardous situations at road crossings. These incidents have been investigated, and measures have been specified to address them.

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Group members reminded the attendees that permits are also required to cross waterways if they are considered a public right-of-way. Hazards may arise on worksites if third parties fail to comply with prohibitions. It is difficult to completed close off waterways to prevent third-party access.

6.1 Fingrid's specifications (Karri)

It was stated that Fingrid does not have any specifications for traffic arrangements or for road, railway and junction crossings. Fingrid has developed a protective suit for crossing railways.

7 Protecting cable ducts (Fingrid's view, Karri)

Karri Koskinen gave a presentation on protecting cable ducts. All of the suppliers accepted the policy on protecting ducts.

8 Occupational safety and responsibilities in element installation (planner/supplier, Aleksi Peltola)

Alexsi Peltola gave a presentation: Occupational safety and responsibilities in element installation.

We stated that hazards might arise if the plan fails to take into consideration the movements of the rear of a crane. Special attention must be paid to creating high-quality lifting plans. The plan must take into consideration the fixing points for fall protection equipment. It was also stated that the main contractor should ensure that there is a written element installation plan on the worksite. Elements should include permanent and visible markings stating the total weight of the element. The suppliers will investigate this on their worksites.

We discussed Fingrid's example substation building and the initial data delivered by the planner to the main contractor. It was agreed that Karri would investigate which plans for element construction are delivered by Fingrid to the main contractor. This will be discussed at the next meeting.

We discussed the following areas for improvement:

- The suppliers felt that planners often want to get all of their papers in order too quickly.
- There is room for improvement in terms of the manufacturer's obligations. It is difficult to obtain documentation such as movement, lifting and storage instructions from manufacturers. In the suppliers' experience, some places provide this information while others do not. A kick-off meeting should be held with the manufacturer to agree on certain matters and documentation in advance.
- Special attention must be paid to fall protection when elements are dismantled. Generally speaking, a large number of falls occur in the construction industry when elements are dismantled. We discussed whether the element manufacturers could provide help with fall protection. It was agreed that the suppliers would

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review the fall protection solutions on their worksites and investigate the current status.

It was agreed that fall protection when dismantling elements would be on the agenda for the next meeting:

- Fall protection solutions (Juha-Matti Huhtanen)
- Documents to be obtained from element manufacturers, best practices, tools for lifting elements and foundations (Markku Linnanen)

It was stated in general terms that Fingrid is increasingly building with prefabricated elements. For this reason, attention should be paid to occupational safety in element installation.

9 Agreement to assign the main contractor's responsibilities/duties (Karri)

Karri Koskinen presented a new form entitled "Assignment of the duties of the person responsible for the worksite". The suppliers felt that the form was good and ready for use.

10 Construction/demolition under and near live wires: a checklist of things to note (all)

As a group, we brainstormed the things that need to be taken into consideration when working under and near live wires. It was agreed that Pasi Lehtonen would make a checklist in the format of a briefing, to include the items listed in bold below:

- Considering/investigating whether a transmission outage can be obtained for the site.
- **The safety declaration must be made in good time (at least two business days before work begins).**
- **Eliminating automatic reclosure.**
- Text message notifications (one per supplier).
- **Work kick-off meeting on-site – reducing work stress.**
- Take into consideration the changes in operating conditions.
- An up-to-date emergency plan and connection with the main grid control centre in the event of an emergency.
- Sufficiently qualified and trained employees. If employees/workgroups change, orientation must not be forgotten.
- **Which voltages/distances.**
- **Take into account the movements of hoisted loads during work to ensure that the minimum voltage distances are not violated (and that tower structures are not broken).**
- **Long items must be earthed (also applies to conductors).**
- Construction/demolition/lifting plans and risk assessment on-site, and demarcating areas.
- **Earthing plans, including earthing for work machinery.**
- Ensuring that the work machinery is suitable for the work concerned.
- Storage during the demolition/construction phase.

- **If required, a guard to ensure the correct safety clearance while working with machinery.**
- **Measuring the heights of conductors during the planning phase, when work begins and, if necessary, while working. Using limiters.**

11 Next meeting

It was agreed that the next meeting would be held on 25 September 2019 and the final meeting of the year would be held on 28 November 2019.

To be discussed at the next meeting:

- Fall protection plan at Substations (Janne Ketola)
- Use on worksites of machinery and equipment manufactured in house (Marko Elorinne)
- Storing and handling footwear and equipment contaminated with creosote (Jani Rintala)
- Using a car or excavator as a power source for a winch when lifting items onto towers – pulling conductor carts
- Remote-controlled cranes and radiotelephony on worksites (Karri Koskinen)
- Element construction plans delivered to the main contractor by Fingrid (Karri)
- Fall protection when dismantling elements:
 - Fall protection solutions (Juha-Matti Huhtanen)
 - Documents to be obtained from element manufacturers, best practices, tools for lifting elements and foundations (Markku Linnanen)