

# FINGRID

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**ALL IS WELL**  
with the Finnish grid *page 4*

You can come across **RARE NESTING BIRDS**  
in transmission line areas *page 8*



### Service in the spirit of co-operation

I test drove a car recently. I had made an advance arrangement on a test drive at a car dealer selling high-quality cars, and I turned up at the agreed time. The keys were given to me without any further instructions, and the receptionist behind the counter just pointed with her hand in the approximate direction of the outdoor area where I would find the car. I looked at the area ridden by blizzard. When I asked whether the car had been standing in that weather for a long time, I was given a snow brush with a statement that one of the guys had used it in the morning. So, I went out to search the car, which I ultimately found on my own, and then I could start scraping the snow off...

A few days later, I went to a similar test drive at another car dealer. As I had learned something from my experiences, I phoned them before I left to make sure that a car was available. Yes, everything is ready, was the reply. And indeed, everything – the paperwork, keys and the car – was ready as agreed. The salesperson came with me to the car. She asked me to sit in the driver's seat, gave me the keys, went through the main controls, and asked me if automatic transmission was familiar to me. "It's best to forget the left foot, you don't need it." Her presentation was friendly, matter-of-fact, and focused on the essential. The test drive left me with a good feeling, especially because of the skilful salesperson.

Even though I did not close a deal, it was quite clear with whom I would choose to continue co-operation. This led me to think what good service is actually about. I concluded that you experience something as bad service if the service goes below your expectations. If the service meets the expectations, you just think that it is what it is supposed to be. If the service exceeds the expectations, it stays in your



mind as a positive experience. In other words, your own expectations also crucially determine how you think of some service. The expectations change, and occasionally you have to view them critically. Still, the main point is to have a friendly attitude which takes others into account. Especially in technical areas, good service involves expertise and a readiness and willingness to find out about things you do not know. Work in its current form calls for co-operation between different matters and different kinds of people.

One of the focal areas in Fingrid's transmission service is to develop the main grid in co-operation with the customers and other Nordic TSOs. The primary goal is to create a shared long-term grid vision. We have divided the Finnish transmission grid into 13 regions in terms of grid technology, following natural boundaries. Each year, we will go through from 3 to 5 regions thoroughly with our customers. The shared grid vision is thus updated at least every 5 years.

The first experiences of this type of planning have been very positive. This also provides better information on the development outlook of the main grid. We obtain vital information on the needs and plans of our customers as well as on the features and requirements of consumption and production equipment, which may have essential importance both in view of a regional network and the main grid. All customer information is handled strictly confidentially. We believe that this type of a joint procedure will give our customers more than just a snow brush in the hand.

The sun is already high, and the much-awaited summer is approaching. I wish all our readers a pleasant summer and a refreshing holiday.

A handwritten signature in black ink, appearing to read 'Pertti Kuronen'.

Pertti Kuronen is Fingrid's Grid Service Director.

**Editorial staff**

## In this issue



4

**Timo Rajala hopes that bureaucracy would not bind the efficient Finnish grid operator.**



14

**Voimatel aims high.**



20

**Genealogy is increasingly popular in Finland.**



### ■ Editorial

Service in the spirit of co-operation 2

### ■ Timo Rajala:

#### Everything is very well with the Finnish grid

"Threats of grid operation come from the outside," says the new Chairman of the Board of Directors of Fingrid. He hopes that Fingrid, which attends to its duties reliably and efficiently, could have free hands to work. 4

### ■ Dozens of bird species nest in transmission line areas

Transmission line areas provide a favourable nesting environment for many bird species which prefer low bushes and half-open terrain. In such areas, you can come across some real rarities. 8

■ In brief 11

### ■ It takes getting used to a changed scenery

A follow-up study of the social impacts of the Länsisalmi – Kymi 400 kilovolt transmission line is complete. The results indicate that people living close to the line do not feel that the line disturbs everyday life, but it takes some time to get used to the changed scenery. 12

### ■ Voimatel aims to be No. 1 in its area

Headquartered near Kuopio in Eastern Finland, Voimatel Oy endeavours to be the market leader in Eastern Finland in the construction and maintenance of electricity and telecommunications networks. 14

■ In brief 17

### ■ Grid ABC

Power and instrument transformers 18

### ■ Genealogy is going strong in Finland

More and more Finns wish to know about their roots and follow the tale of their own family as far into the past as possible. 20

■ In brief 25

### ■ In the net

Words and their meaning 26

### ■ New duties for Fingrid as the guarantor of origin of electricity

Producers of renewable energy can now obtain a certificate of the origin of their product. In Finland, these certificates are issued by Fingrid. 27

### ■ Insight and startling ideas in an interaction seminar

An interaction seminar run by Ritva Enäkoski and Marco Bjurström makes the participants think about their own input in the welfare of the workplace and in interaction situations. 28

■ In brief 30

### ■ All in a day's work

Pasi Aho: We became bricklayers, taxi drivers... and engineers 31



# ”EVERYTHING IS VERY WELL with the Finnish main grid”

## Threats come from the outside

■ Timo Rajala, who returned to the position of the Chairman of the Board of Directors of Fingrid after four years, is not economical with positive words when praising the current state of the Finnish main grid and the transmission system operator. His dearest wish for his period as the Chairman is that Fingrid, which attends to its duties reliably and efficiently, could have free hands to work.

TEXT BY: MARIA HALLILA PHOTOGRAPHS BY: JUHANI ESKELINEN

**F**ingrid’s customers are not economical in rating Fingrid’s performance, either.

”Fingrid’s customer satisfaction is approaching an excellent grade. It would take quite a miraculous company to do any better than that,” says the new Chairman.

Timo Rajala’s assessment is based on a perspective covering Fingrid’s entire existence. ”In 1996, I was among those drawing up the charters of the company, and I think I’m the only present Board member who was involved in the launching of the company,” he states.

The establishing owners of Fingrid take turns in holding the position of Chairman of the Board. Before this, Pohjolan Voima Oy – whose President Timo Rajala is – held this position in 1998 to 1999.

### Goals exceeded

When talking about the current state of the Finnish transmission system operator (TSO), Timo Rajala returns to square one, to the goals that were set for the new company less than 10 years ago.

”The main goals were related to a reduction in the cost level of main grid transmission, increasing the company’s equity ratio, reducing the number of personnel, and promoting the functioning of the Nordic electricity market.”

Timo Rajala feels that these goals have been achieved – some

have even been surpassed.

”The ambitious goal of reducing the prices levied from transmission customers by 15 per cent was reached ahead of schedule: since 1997, the real price level has come down by as much as 25 per cent. Despite the reduction in tariffs, Fingrid’s equity ratio has grown from 20 per cent to approximately 30 per cent when including the capital loans. The capital loans were necessary in the initial stages when the company acquired an international credit rating, and they also supported a continued high credit rating when the tariffs were lowered. Fingrid’s equity ratio excluding the capital loans is approximately 20 per cent.”

Timo Rajala says that the current number of personnel is at a level which was originally thought to be correct. The ”excessive” organisation of the company created as a result of the merger of two companies has been streamlined primarily through natural turnover of personnel and through corporate rearrangements.

The company can also perform in the Nordic electricity market as originally defined. ”The company has done all it has could – including really extensive capital expenditure projects – to remove transmission congestions from its own area.”

There has not been similar input in Sweden and Norway, and according to Timo Rajala, this is reflected in the fluency of co-operation. The Nordic team spirit is also burdened to some extent by the differences in the status, ownership and procedures





"Vladimir Putin recently commended the EU because the Union has even surpassed the achievements of his own country in the creation of bureaucracy," says Timo Rajala with a laughter. According to him, an ever increasing number of directives and regulations is becoming a problem in transmission system operation, too.



of the various grid organisations.

“Statnett AS in Norway is government-owned, and it attends to many duties of authorities. The decisions governing it are made in *stortinget*, the Norwegian Parliament. We Finns feel that the moves made by players involved in a market economy should not be decided by Parliament,” Timo Rajala points out.

“Nord Pool Spot, the Nordic electricity exchange, is also subject to Norwegian laws, and its procedures do not fully comply with the needs and wishes of the Finnish customers of the exchange.”

### **Bureaucracy restricts**

However, the future of the Finnish TSO does not appear to be a mere bed of roses even though it has taken care of its duties in an excellent manner even when measured by an international yardstick. According to Timo Rajala, one of the future problems is increasing bureaucracy, the tendency of authorities to regulate well-functioning systems.

“Over the years, Fingrid has developed its operations to correspond to the ever-increasing obligations imposed by legislation such as stricter requirements concerning transparency. Fingrid is also accustomed to taking into account the operating requirements of the electricity market in all of its decisions.”

Finnish legislation alone imposes enough rules and conditions on enterprises, but the European Union produces these at an ever greater pace, too.

“One indication of Finnish obedience to law is that whenever a directive is received from Brussels, we tend to make the national rules even stricter. We may enact standards that go beyond the EU regulations instead of utilising the permitted country-specific flexibility mechanisms like other EU member states do,” Timo Rajala says.

He adds that from the viewpoint of Finnish main grid operation, which has proven to be efficient and reliable in international benchmarking, it is difficult to understand this.

“International comparisons have indicated that the transmission prices and prices of electric energy in Finland are competitive and that the security of supply of electricity is good. In other words, there should be no reason to increase regulation. Still new rules are being drawn up constantly, giving authorities more power to regulate well-functioning systems.

Timo Rajala thinks that the fact that the EU keeps churning out directives stems from the traditions in Continental Europe and from a need to concentrate duties to authorities.

“But what is appropriate for Germany and France, which are only liberalising their electricity markets, is not necessarily suitable for Finland which is well ahead of Continental

Europe in the application of market liberty. I would like to see Finnish authorities defend the exemplary Nordic market and the Finnish supervision traditions when the directives are being drafted.”

### Respect for the individuality of enterprises

Timo Rajala thinks that enterprises should be allowed to organise themselves optimally from their individual needs – and a transmission system operator, if any, is an individual company, one of a kind.

”It is difficult to understand from Fingrid’s viewpoint why it needs to be supervised in the same manner as an electricity distribution company. The transmission system operator must plan its operations over an exceptionally long perspective. Review periods of three years are far too short for it,” Timo Rajala argues.

He also says that it is unclear how to define the ”reasonable proceeds” of the TSO’s tariff system, defined in the regulations. How much is the TSO allowed to gather assets as it needs to prepare itself for really extensive capital expenditure in the future?

Timo Rajala feels that the interfaces to authorities also require clarification. He specifically mentions the jurisdiction of competition, consumer and security authorities. ”For example, the blackout that struck Helsinki last autumn is not an issue belonging to the Energy Market Authority – it is about technology and security.”

”Electricity is a difficult market commodity,” Timo Rajala admits.

”The Energy Market Authority has a fairly short history, because the liberalisation of the electricity market in Finland



**Timo Rajala is a fairly recent Chairman in the Finnish championship league in ice-hockey. He thinks that Fingrid and the league have at least one feature in common: any failures are sure to make it to the headlines.” Luckily, the Finnish main grid has not given cause for big news,” he states.**

only took place less than 10 years ago. Many things still need to be learned.”

”I hope that a consensus could be reached concerning the level of involvement by authorities so that controversies could give way to open discussion and co-operation.”

### Challenges and wishes

Timo Rajala says that during his Chairmanship, Fingrid will face demanding challenges. ”One of these are the grid arrangements called for by the new nuclear power unit. The preparation of Fenno-Skan 2, the second phase of the sea cable connection between Finland and Sweden, will also require some effort.”

Other issues requiring continued activity include participation in the development of the European electrici-

ty market. Timo Rajala hopes that this will continue on the basis of the practical experiences gained in Finland and the other Nordic countries.

The Chairman also has wishes concerning electricity imports towards Russia. ”It would be good if Russia followed the reciprocity of an open market, accepted the terms of co-operation justified from the viewpoint of the Finnish main grid, and avoided unilateral pursuing of own interests.”

Timo Rajala believes that Fingrid will retain its efficiency and economic results in international benchmarking also in the future. ”Fingrid will certainly be in the top league of transmission system operators in two years when my Chairmanship comes to an end,” he assures.



Red-backed shrike (*Lanius collurio*).

More than 50 bird species may have a

## NEST IN A TRANSMISSION LINE AREA

Transmission line areas provide a favourable nesting environment for many bird species which prefer low bushes and half-open terrain. In such areas, you can come across real rarities such as the red-backed shrike or the wood lark. This is stated by Pertti Koskimies in his research report of birds nesting in transmission line areas in Southern Finland.

TEXT BY: LENI LUSTRE-PERE PHOTOGRAPHS BY: JUSSI MURTOSAARI

**P**ertti Koskimies, ornithologist and Licentiate in Philosophy, studied bird species nesting in transmission line areas in Southern Finland in 2002 to 2003. The total research area was 370 hectares. The areas selected for the research represented samples with varying widths and environmental features in typical transmission line areas in Southern Finland. The counting areas were located in Siuntio, Porvoo, Pernaja, Miehikkälä, Hamina, Luumäki and Kokemäki.

The purpose of the research commissioned by Fingrid Oyj was to ascertain:

- what bird species nest in transmission line areas in Southern Finland and how many such birds there are
- what is the significance of transmission line areas as a habitat of endangered bird species, ones with significant protection value, and rare bird species
- how does the clearing of the transmission line area affect the diversity of bird species and number of birds
- how should clearing be developed so that the populations of protected nesting birds in particular are not endangered by clearing.

### Wood lark is the most valuable species

A total of 53 bird species nested in the researched areas. Most of these species are common birds in forests and bushes in Finland. Transmission line areas turned out to be an important habitat for the red-backed shrike, wood lark, whitethroat, lesser whitethroat, garden warbler, robin and yellowhammer. The research indicated that the nesting frequency of these species in transmission line areas is considerably higher than in other Finnish habitats on average.

The most valuable species in transmission lines in terms of protection value are the red-backed shrike and wood lark, which are included in species requiring special protection, listed in appendix I of the bird directive of the European Union. "A significant portion of the total populations of these species nest in transmission line areas," says Pertti Koskimies.

### Nesting birds taken account in clearing arrangements

The trees and bushes in transmission line areas are cleared at intervals of about 5 to 7 years. The clearing interval has been shortened in some locations because of results obtained from

earlier studies. As an example, a study by the Finnish Environment Institute stated that transmission line areas are vital compensatory habitats for meadow plant and butterfly species which have suffered due to the disappearance of natural meadows.

According to the findings of the current study, many bird species disappear from transmission line areas during the year following clearing because there are no small trees or bushes, but these species return in such areas quickly in line with the re-emergence of new saplings. According to Pertti Koskimies, newly-cleared open terrain is occasionally used as a feeding place by species which do not prefer thick bushes created towards the end of the clearing cycle. In this way, transmission line areas offer a suitable habitat for dozens of bird species during the entire clearing cycle.

Ari Levula, Maintenance Manager for Fingrid's transmission lines, says that the findings of the research confirm that quicker clearing cycles are useful from the viewpoint of nature conservation. "In accordance with our clearing instructions, we save trees such as junipers, which are important nesting and viewing places for the red-backed shrike. We have established specially-managed butterfly meadows in transmission line areas in Southern Finland, and we are using these sites to also test whether the piling of clearing waste offers good nesting places for the red-backed shrike." According to Ari Levula, bird species nesting in transmission line areas are taken into account in the use of clearing methods and scheduling of clearing. Areas with much juniper, which are known to be significant nesting areas, are cleared manually, and mechanical clearing is avoided during the early summer.



Photograph by: Juhani Eskelinen

Kestrel (*Falco tinnunculus*).

## Flying mole traps obtained new bedsitters

### Bird houses for kestrels on transmission line towers

During the late winter, Fingrid had about 100 bird houses installed on transmission line towers in Southern and South-Western Finland, to be used as homes by kestrels. The goal is to promote the protection of this increasingly rare and endangered bird of prey by attracting it to areas where its worst enemy, the pine marten which tends to eat its nestlings, does not dare to come.

**T**he kestrel (*Falco tinnunculus*), with tapered wings and a long tail, is a member of the falcon family. It is slightly smaller than a crow, and it can be identified easily by the way in which it catches its prey: the bird hovers almost in one place against the wind over a field prowling moles. Once it notices its prey, it descends gradually and finally dives down to grab the catch. It tends to eat grasshoppers and even frogs, but moles are its favourite dish. A kestrel family may eat hundreds of moles during a nesting season.

As the kestrel begins to prey early in the spring, many female moles carrying young ones are caught by the bird, which naturally decreases the reproduction of moles even more. The kestrel is hence referred to as a "flying mole trap".

The kestrel population in Finland

has declined to a fraction from that which existed half a century ago. The frequency of this bird, once probably the most common bird of prey in Finland, decreased very rapidly in the 1960s most likely because of environmental toxins and an increase in pine marten population. Drainage of fields and intensification of agriculture have also undermined the kestrel's hunting grounds.

Because of the degeneration of its population, the kestrel is classified as a monitored species, and if the number of kestrels keeps decreasing, it will become an endangered species. The kestrel tends to nest in old crow's nests or specially-designed bird houses located beside open fields.

People who ring birds have helped the kestrel in recent years by installing specially-designed bird houses in various parts of Finland in visible plac-

es on barn walls, solitary trees and in small forests. The diminishing kestrel population has begun to recover in areas where bird houses have been installed.

The best address for a kestrel is a house located in the middle of an open field, offering a good view in all directions and an almost ready dining table beneath. However, the most important thing is that the kestrel's mortal enemy, the pine marten, avoids open areas and does not dare to climb up transmission line towers, for instance. Good experiences have been obtained in Sweden of kestrels settling in in bird houses installed on transmission line towers.

The kestrel is accustomed to people and agricultural machinery moving on fields, but it is naturally disturbed if someone stays near its nest continuously. The bird houses installed by Fingrid are checked annually in May, and houses with inhabitants are checked again in late-June, when the nestlings are also ringed.

The bird houses are installed by professionals – personnel of Eltel Networks Oy – since outsiders must not climb up transmission line towers under any circumstances because of safety reasons. Those who ring the birds obtain special training in electrical safety. It is to be hoped that the new bedsitters of kestrels soon sound a choir of nestlings: "khii-khii-khii...".



## Network Operation Committee launched

Fingrid's Network Operation Committee, established towards the end of 2003, held its first meeting on 23 January 2004. Kimmo Kuusinen, Chairman of the Committee, had high hopes after the meeting. "The discussion within the meeting was open, active and above all constructive. I believe that co-operation between the various sectors of grid operation will improve further as a result of the efforts of the Network Operation Committee and that this will benefit both Fingrid and its customers," he stated.

Through the Network Operation Committee, Fingrid wants to hear the opinions of various types of customers. This is why the members of the committee represent regional players, urban utilities as well as major electricity users and producers. The committee is primarily a discussion forum where the opinions expressed are recorded in minutes. The committee aims at unanimous views and recommendations, but it does not make decisions which bind Fingrid.

### Co-operation bodies with distinct roles

The Network Operation Committee is the third co-operation organ between Fingrid and its customers. The two other organs established earlier are the Advisory Committee and the Power System Committee (former Operations Committee). "All three have their own distinct roles," Kimmo Kuusinen says. The Network Operation Committee discusses matters which have a significant impact on the operation of the main grid, with focus on the 110 kilovolt voltage level. These matters include disturbance clearance, network operation, and outage planning and execution. "The Power System Committee, in turn, deals with system-level issues such as balance management and settlement, reserve agreements and Nordel efforts. There are interfaces in some issues, but this is the coarse division."

### Meetings four times a year

Fingrid summons the members to the Network Operation Committee for a period of two years at a time. The committee has eight meetings in each composition, since the intention is to have four meetings per year.

The companies summoned to the Network Operation Committee have appointed the following persons as their representatives:

- Esa Kalla                      Outokumpu Oyj
- Erkki Nuortio                Kemijoki Oy
- Esko Poikela                Fortum Sähkönsiirto Oy
- Matti Ryhänen              Kymppivoima Oy/Atro Oyj
- Osmo Salmisto              Oulun Energia
- Jarmo Ström                E.ON Finland Oyj
- Markku Vänskä            Vattenfall Verkko Oy

Fingrid's members in the committee are:

- Kimmo Kuusinen  
Manager of Network Control Centre (Chairman)
- Jari Helander  
Maintenance Manager, Regional Operation
- Arto Pahkin  
Head of Operation, Network Control Centre (Secretary)

Those interested in network operation can follow the work of the Network Operation Committee, since the minutes of its meetings are published on Fingrid's Internet pages, and in the future on the Extranet pages of grid operation.

The composition of the Power System Committee will remain unchanged this year. The members of this committee are:

- Pentti Kalliomäki        Tampereen Sähkölaitos
- Jussi Kuha                    Fortum Power and Heat Oy
- Matti Laukkanen         Grange Energia Oy
- Jussi Malkamäki        Vattenfall Sähköntuotanto Oy
- Matti Myllymäki         Helsinki Energy
- Pentti Niemeläinen     Stora Enso Oyj Energy Services
- Tapio Ollilla                Imatran Seudun Sähkö Oy
- Risto Viitanen            UPM-Kymmene Oyj Energy

The Chairman is Reima Päivinen and Secretary Jarno Sederlund, both of Fingrid.

Text by: Leni Lustre-Pere



# It takes getting used to a changed scenery

Follow-up study of the social impacts of a transmission line completed

Those living adjacent to the Länsisalmi – Kymi 400 kilovolt transmission line in Southern Finland, completed in the year 2000, have rather neutral experiences of the line. This is indicated by a follow-up study concerning the social impacts of the transmission line. The line does not disturb everyday life, but it takes some time to get used to the changed surrounding scenery. People are also concerned about the potential health impacts of electric and magnetic fields.

TEXT BY: LENI LUSTRE-PERE

PHOTOGRAPH BY: JUHANI ESKELINEN

The study commissioned by Fingrid, completed in March, covered the interviews of 19 landowners three years after the transmission line was ready. The interviewed persons were selected randomly so that certain criteria were met. The interviewed persons had to represent landowners throughout the length of the line, and they had to own a residential building or a holiday home within a distance of one kilometre from the line.

## Extensive questions about the neighbourhood of a transmission line

In addition to general background questions, the respondents were asked about their opinions about Fingrid's per-

formance, progress of the expropriation process, potential impacts of the transmission line on everyday life, business and employment, mobility, and the surrounding scenery. In a section for free comments, the respondents had an opportunity to present their opinions which were not covered by the questions.

The life and experiences of the interviewed persons of the transmission line were approached from a number of angles. The most important thing was to ascertain the foremost experiences caused by the Länsisalmi – Kymi line, which was built in the year 2000, one year after completion. Had the earlier opposition and negative moods which may have prevailed during the engineering and construction of the line evened out or changed, and if they had, how? Had new worries emerged after the completion of the line?

## Satisfaction and reservation

The respondents were almost unanimously satisfied with Fingrid: the company's representatives were regarded as polite and friendly. Those respondents who had experience of an earlier line project about 30 years ago showed some reservation. Most respondents were satisfied with the expropriation process, even though the small amount of compensation and the fact that it was paid as a single payment received some criticism.



### Uncertainty about health impacts

The experiences about the transmission line were almost neutral. The line was not thought to trouble everyday life, but those living immediately adjacent to the line argued that the line potentially decreases the value of their property.

Many respondents said that they think about the potential health impacts of the line. Uncertainty was caused by issues such as prospective disadvantages to people, animals, vegetation, berries, mushrooms, well water, and machinery and equipment.

One of the respondents was moving away from his present house because of the scenic drawbacks and a fear caused by electric and magnetic fields. The family's plans for moving away had been triggered by concern over the health of children.

The respondents thought that the drastic changes in the surrounding scenery are negative, because it has been difficult to become accustomed to a new landscape. However, many respondents regarded this as a matter of time. "Of course, you get used to the line. I was against it at the beginning, it makes the natural environment uglier even though it does not have a general effect on life...". "It naturally disturbs the rural peace a little, it's a scenic drawback but we have got used to it...".

### Future uses of right-of-way unclear

The transmission line has not had a direct effect on business or employment. Landowners who own agricultural land stated that it is troublesome to go around guys when they use large ag-

ricultural machinery on the fields, but in other respects the line did not cause negative impacts for them. Landowners who had rented their farmland said that the rent prices had taken the transmission line into account, and the lessees had not mentioned about any other inconveniences.

Many landowners were uncertain about the potential future uses of the right-of-way. At the moment, the transmission line does not allow functions such as afforestation of fields or growing of special plants which require sprinkler irrigation.

### Open terrain makes moving easier

The transmission line area has provided the local inhabitants with many new environmental opportunities: the open terrain makes it easier to move in the natural environment and to utilise the transmission line areas. People pick mushrooms and berries and cultivate plants for household needs in the transmission line areas. In the winter, these areas provide an opportunity for skiing and sledge riding, and during the elk hunting season, transmission line areas offer a superior shooting spot because of good visibility.

High stumps of trees after clearing caused some criticism: these are both a scenic disadvantage and an impediment to moving. Some respondents also wished information on the timing of clearing.

Some respondents said that they avoid staying under the transmission line area because of the fear caused by electric and magnetic fields. "We avoid the right-of-way, none of our family goes there. Still, it has not caused any impacts within the house at any weather."

### Study considered as positive thing

Many respondents considered the follow-up study as a positive thing, even though there were some doubts as to its intentions: "I wonder if the purpose of this study is to pave the way for the new line from Loviisa," was how one respondent commented.

Those interviewed expressed many types of wishes and also a fear of a tower falling down during a storm. Condition inspections of transmission line towers were also of interest; people wanted to obtain information on the inspection schedules and intervals. One respondent hoped that clearing waste was collected from the site. Another respondent argued that those landowners on whose land the transmission line runs should be exempt from paying the electricity bill.

### Events for local residents were commended

During the interviews, it transpired that the events arranged by Fingrid for the local residents during the environmental impact assessment process were regarded as a good opportunity to obtain information and influence the process, even though the actual written statements travel through the contact authorities. Those conducting the study concluded that one of the reasons for conducting unofficial and official events also in the future is to distribute information and to learn about the environmental impact assessment process.



Occupational safety campaign "Zero accidents" is presented visibly in Voimatel's facilities. "We aim to achieve this goal by dropping the number of accidents to a half every year. This year, we endeavour to come from 30 accidents down to 15," Urpo Pietikäinen says.

# Open market makes VOIMATEL BIGGER

The more open the market, the more growth opportunities there are. This is the rationale of Voimatel Oy headquartered near Kuopio in Eastern Finland. The company has set a goal to be the market leader in Eastern Finland in the construction and maintenance of electricity and telecommunications networks.

TEXT BY: MARIA HALLILA PHOTOGRAPHS BY: ARI-PEKKA KERÄNEN AND JORMA HENTILÄ

**U**rpo Pietikäinen, Managing Director of Voimatel, welcomes the trend whereby the electricity and telecommunications network businesses are becoming more and more open. Competition brings new requirements concerning cost efficiency, and an increasing number of companies respond to these requirements by outsourcing their network construction and maintenance.

"This has been and continues to be Voimatel's challenge and opportunity. We liberate our customers to focus on their own core business," Urpo Pietikäinen says. Fingrid is among Voimatel's five biggest customers, referred to as the "Top Five" within the company.

## Benefits of partnership to the customer's purse

Entrepreneurship and a desire to succeed and develop – which are also stated in Voimatel's values – constitute the company's driving force. Other means for advancement include open interaction and confidence



Conductors being installed on the Varkaus - Huutokoski line site in December 2003. Veli Ikonen at work.

which not only guide the company internally but also the building up of customer relations.

"We wish to develop a customer relationship starting from a single assignment to deeper partnership," Urpo Pietikäinen says.

Voimatel already has several partnership customers. With these, the company goes through regularly the key issues of co-operation in a spirit of confidence. These issues include

ongoing, completed and future assignments, development needs, and the customer's expectations and requirements.

"The benefits of partnership go to the customer's purse as the total costs of construction and maintenance are reduced," Urpo Pietikäinen assures.

According to him, a partnership-based operating model is demanding to the service provider. This model needs support from issues such as efficient communications which calls for the utilisation of the most recent achievements in information technology.

"The data must travel between the customer and supplier quickly and reliably. Partnership and IT advancements go hand in hand."

Urpo Pietikäinen considers FgPartners, the data transmission service which Fingrid has opened for its partners, as an excellent example of a quick and efficient data highway. The service provides access for instance to Fingrid's extensive maintenance data system and to the electronic archive for technical documents.

"The data required by the assign-



**Voimatel's growth vision has been achieved best in the grid and regional network unit. Seppo Ruuskanen also sees promising growth opportunities in telecommunications network services.**

ments is available to the users immediately. This saves time, trouble and money."

### **From Northern Savo to Kymenlaakso**

Fingrid has entrusted the basic maintenance of its substations in Eastern Finland to Voimatel through a contract. Voimatel also maintains the transmission lines in Fingrid's Varkaus area through a subcontracting contract signed with Fingrid's actual partner Eltel Networks Oy.

By having Fingrid as one its customers, Voimatel's area has expanded to cover the entire substation areas of Varkaus and Imatra. "As far as Fingrid's substations are concerned, our area now extends from Northern Savo to Kymenlaakso in the south

of Finland. Our southernmost site is in Loviisa and the northernmost in Nurmes," Urpo Pietikäinen says.

According to Seppo Ruuskanen, who is responsible for Voimatel's transmission grid business, Voimatel has been able to show its expertise not only in maintenance but also in the demanding refurbishment and construction projects of the main grid, for instance in the installation of busbars at the Imatra substation in 2003.

"We are currently refurbishing the Varkaus and Huutokoski substations because of the new 110 kilovolt line to be constructed between these two. We will also build that line as the subcontractor of Eltel Networks," Seppo Ruuskanen says.

### **Young but experienced**

Voimatel markets features such as good quality, supply reliability, long experience and extensive expertise as its strengths. The company reached the age of three years on 1 May – where has that experience come from?

"We employ 214 persons with an average work experience of more than 20 years," says Seppo Ruuskanen, who is also responsible for human resources.

"Voimatel obtained experience and expertise naturally, since most of our personnel came from the three owner companies, each with a solid background and history. Voimatel came about when the Atro Group incorporated its construction of electricity networks. Eltel Networks and Kuopion Puhelin soon joined in as co-owners."

Fingrid is also related to the early stages of Voimatel, since in conjunction with the revision of its operating model, Fingrid sold the local operation services in Varkaus to Voimatel. In this conjunction, three Fingrid employees who were responsible for these duties shifted over to the employment of Voimatel.

"We also welcome any new owners," Urpo Pietikäinen says.

### **New experts through apprenticeship**

According to Seppo Ruuskanen, the duties pertaining to the maintenance and development of the main grid have increased the requirements of professional expertise among Voimatel's personnel. This is why he regards securing the continuity of professional skills and expertise as one of the company's foremost challenges in the near future.

"The average age of our personnel is 47 years, and a relatively high proportion of our personnel retire annually," he states. "Experts for the demanding duties cannot be obtained directly from school, but we need to train them ourselves."

Voimatel has found that the apprenticeship system is a suitable tool

for the company in training a new generation of experts. The company hires young people, who have completed their vocational education, for a two-year period of apprenticeship and employment. The North Savo Vocational Institute is responsible for theoretical instruction.

"After two years, the guys are good professionals, and the most capable are even suitable for supervisory duties," Seppo Ruuskanen commends.

He is also satisfied with the great popularity of this training option. Voimatel's recently finished recruitment process produced some 140 apprenticeship applications. Of these, 30 were invited for an interview, and 10 to 15 of these will be selected for the apprenticeship programme.

### Local presence is an asset

It seems that even in the increasingly global world, the maintenance and construction of electrical and telecommunications networks are still duties where local presence is a clear advantage. This has been seen and felt at Voimatel, and the company considers that being located in Eastern Finland is a solid competitive edge.

"We are well aware of the local circumstances and we can respond to disturbance situations promptly. When the sites are near, the costs are also smaller," is how Urpo Pietikäinen lists the benefits of local presence.

He says that he has noticed that local suppliers are trusted more than ones coming from farther away. "When we are working close to our end customers, we can be approached easily."

Voimatel offers its expertise not only for electricity and telecommunications network companies but also directly to their customers. Alongside measurement services and services which boost electricity safety, backup power systems are one product which have increased their market share considerably.

"The best spokesman for this product was the summer storm in Finland a couple of years ago," Urpo Pietikäinen says with a smile.

He adds that the need for backup power is a topical issue. During the past year, Voimatel delivered turn-key backup power stations to some 500 farms in Northern Savo.



mission line in Janakkala in late March. The wooden tower originally built in the 1940s had come to the end of its trail and was replaced with a new one.

The replacement work was routine: each year, Fingrid has to renew dozens of wooden towers which have been notched by woodpeckers or which have become decayed. The new thing with the replacement of this particular tower was tall oil, the impregnating agent used in it.

Tall oil, which is even referred to as the new green gold of Finnish forests, is used extensively in engineering works, sawmills, in the steel, concrete and construction industries and in civil engineering. Non-toxic tall oil products which degrade biologically provide alternatives to earlier impregnating agents containing creosote, arsenic compounds and other toxic substances.

Even though wood is a good material in itself, it is susceptible to the effects of weather and rot fungi, which is why it is necessary to impregnate wooden towers. Treatment with tall oil, a natural product, prevents the access of water into the wood by filling the lumens in the wood. A hydrophobic layer is also created on the surface of the wood. Still, it remains to be seen how woodpeckers feel about these new "oil trees" reeking of pine!

Text by: Leni Lustre-Pere

Photographs by: Juhani Eskelinen

IN



BRIEF

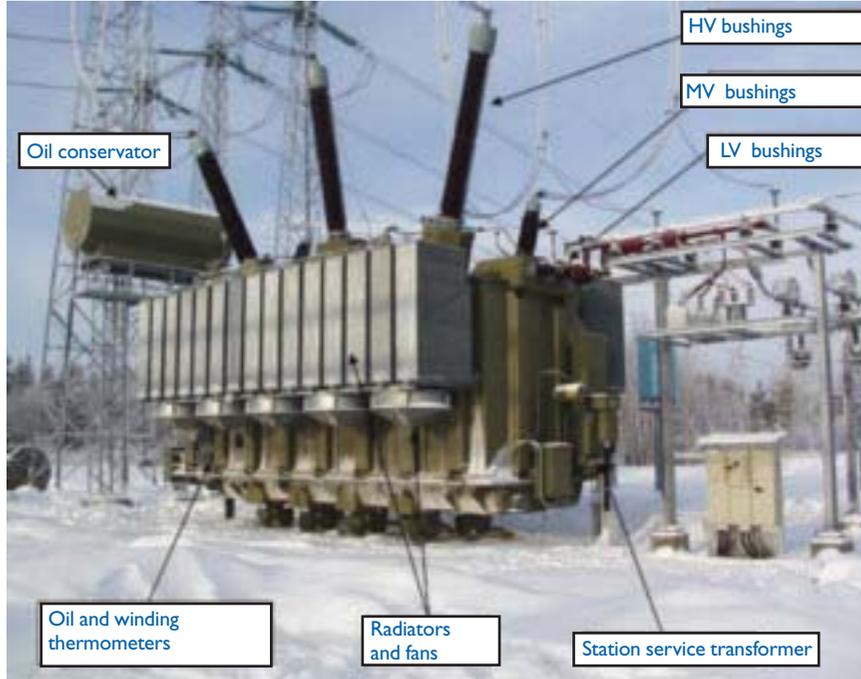


### Fingrid is experimenting with the use of tall oil as impregnant for wooden towers

A wooden tower was replaced on Fingrid's Nurmijärvi - Vanaja 110 kilovolt trans-

## Power and instrument transformers

TEXT BY: MIKA VÄÄRÄMÄKI



One of the two 400 megavolt-ampere power transformers 410/120/21 kilovolts at Fingrid's Yllikkälä substation.

and  $I_2$ ) are inversely proportional to the ratio of the turns of the windings.

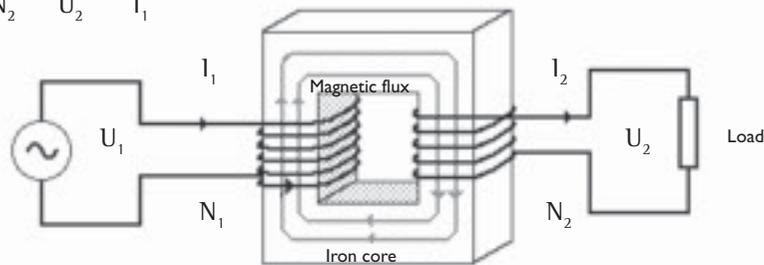
**The active part** inside a power transformer is composed of the iron core and windings. The core is composed of core legs and yokes combining these. Each phase in a three-phase system has its own core leg. The core is made of plates manufactured from grain-oriented steel. There are cylindrical copper windings around the columns for each voltage level to be transformed. The windings for the various voltage levels are located on the column on top of each other in the radial direction. The winding conductor is insulated with lacquer or oil paper, and the windings for the various voltage levels are insulated from each other using electrical pressboard cylinders. In high-current windings, the winding conductor can be composed of several partial conductors in order to reduce the losses. Alongside paper and electrical pressboard, the transformer is insulated by oil which

It is advantageous to use a high voltage in electricity transmission when transmitting high powers. This is so because a certain power can be transmitted at a smaller current when raising the voltage, which also results in smaller power losses on the transmission line. The purpose of power transformers is to transform the voltage in a part of an electricity network to a level suitable for power transmission, distribution or consumption. The transmission voltages used in the Finnish grid are 110, 220 and 400 kilovolts (kV).

**The operation of transformers** is based on electromagnetic induction. In practice, this means that when an alternating voltage ( $U_1$ ) is switched to a single winding, a changing magnet-

ic field is generated in the iron core located inside the winding. The magnetic field simultaneously penetrates the other winding on the same core, whereby an alternating voltage ( $U_2$ ) is induced in the other winding. The magnitude of the induced voltage is directly proportional to the voltage supplied in the ratio of the turns ( $N_1$  and  $N_2$ ) of the windings. The currents of primary and secondary circuits ( $I_1$

$$\frac{N_1}{N_2} = \frac{U_1}{U_2} = \frac{I_2}{I_1}$$



Operating principle of transformer.

also serves as coolant. Some of the insulating support structures in a transformer are of wood. The outer shell of a power transformer is made of steel and called transformer tank.

The phase windings of the same voltage level are connected to each other on the basis of the electric properties required from the transformer. The available vector groups are star connection, delta connection and zig-zag connection. Some of the turns in a certain winding can be connected to an on-load tap-changer, which can be used for altering the number of winding turns being connected (transformation ratio) so that the voltage transformed can be adjusted. The ends of the windings connected are brought to the deck of the transformer through bushings for connection to the electricity network.

The power losses inside the transformer turn into heat which is led to radiators by means of circulating oil, and the heat is released from the radiators to the outer air. Cooling can be boosted by means of fans. The volume of oil varies because of thermal expansion, which is why the oil needs an oil conservator. There is also a need for a dehydrating breather so that the moisture in the air used by the transformer cannot enter the transformer and the insulation.

**A power transformer** is the single most expensive component in a transmission network. Protecting the power transformer and ensuring the availability of the network require several protection and monitoring devices for the transformer. These devices include electric protective relays, oil flow relay, gas re-



**Capacitive voltage transformer.**



**Current transformer.**

lay, pressure relief valve, flash guard, temperature indicators, oil level sensors, and potentially a fault gas analyser. There is usually a small station service transformer in conjunction with power transformers, providing a low voltage for the needs of the substation itself.

**Instrument transformers** are also needed in an electrical network alongside power transformers. The purpose of instrument transformers is to transform the voltage or current in the network to a level suitable for the protection and measurement instruments of the substation. The instrument transformers are divided into current and voltage transformers.

Instrument transformers are usually single-phase units, which is why a separate instrument transformer is needed by each phase. The insulant in instrument transformers is oil, oil paper or moulding resin. The shell of high-voltage instrument transformers is usually live, which is why their construction includes a porcelain or polymer insulator (see the pictures above).

- The voltage transformers in the main grid are usually magnetic voltage transformers or capacitive volt-

age transformers and sometimes capacitive voltage dividers. The operating principle of a magnetic voltage transformer (induction) is in theory the same as in power transformers, but in capacitive voltage transformers the voltage is divided by means of capacitors, after which the voltage is adjusted to a suitable level by means of a matching transformer. Voltage transformers have one core, and in addition to primary winding usually separate secondary windings for measurement and protection circuits.

- The operation of current transformers is based on electromagnetic induction as is the operation of power transformers. Current transformers have separate cores inside a common primary winding for measurement and protection circuits. There are separate secondary windings for measurement and protection circuits.

In addition to the conventional instrument transformers described above, there are also optical instrument transformers on the market. The operation of these is based on the changing of the properties of light in an electric field. However, optical instrument transformers are still quite rare.



## A genealogist puts together a giant jigsaw puzzle from the small traces of the past

TEXT BY: LENI LUSTRE-PERE PHOTOGRAPHS BY: JUHANI ESKELINEN AND ALBUMS OF INTERVIEWED PERSONS

Genealogy is popular in Finland, and there are no signs of this popularity fading away – on the contrary. More and more Finns wish to know about their roots and follow the tale of their own family as far into the past as possible.

In the old days, families were large. In the photograph, Arvi and Sanna Kattelus from the village of Kangas in Ylihärmä with their six children.

As an interest, genealogy is like embarking on a giant jigsaw puzzle which offers endless challenges. However, unlike in a conventional jigsaw puzzle, the pieces in this game are not awaiting in a box with a picture of the completed result on the cover. The pieces of a genealogist are fragmented excerpts deep in archives, memories, in many types of traces of the past.

Genealogy is about seeking, connecting, pondering, concluding, the joy of finding – and sometimes sheer desperation; genealogy also involves occasional disappointments. You cannot find the needle in a haystack that easily, sometimes you never do. But if you give an inch,...



### **Solving the chains of ancestors beats crossword puzzles**

Jorma Kattelus, who works as an electricity market analyst at Fingrid, is one of those devoted to genealogy.

"In my childhood home, relatives were always valued. My parents knew their cousins very well, and they also knew their more distant relatives. Since my parents had close dealings with their siblings, I got to know my many cousins. It was often that there were questions about our family which nobody could answer, and nobody really had time to look them up in old documents. There was not enough time for documenting even the most important stage, the memories and stories of the former generation and the abundant photographic material."

Jorma Kattelus thinks that people in his family were actually aware of the importance of this matter before anything was done, but it just happened that the former generation passed away before the completion of the jigsaw puzzle could begin. This is a familiar phenomenon to many people who have studied their roots.

Jorma's systematic genealogy

studies were launched through the Internet. "It provided new opportunities to study old parish records at home, and this prompted me to start building the jigsaw puzzle. I gave up crossword puzzles and replaced them with the chains of my ancestors."

### **Second-hand information needs to be verified**

Luckily for Jorma, the primary area where his family has lived, the valley of the Lapuanjoki river in Southern Ostrobothnia, is among those regions where historical parish documents have remained intact rather well. It was also a fortunate thing that local genealogists were among the first to convert the old parish records into a format that could be viewed over the Internet.

This so-called second-hand information makes it easier to start. Even very insufficient search items bring to the screen information on your ancestors you have never heard of, and it only takes a few seconds. This is how you can start building the jigsaw puzzle very naturally.

Since the HisKi database maintained by the Genealogical Society of Finland ([www.genealogia.fi](http://www.genealogia.fi)) contains second-hand information – transferred from original sources – it inevitably also contains deficiencies and errors. If you are serious about genealogy, you need to verify the information from original sources. And even these contain mistakes and insufficiencies which you just have to accept.

Some documents may also be in such a poor condition or the entries may be so superficial or unclear that

even a professional historian cannot make them out. And it may also happen that the priest making the entry hundreds of years ago may not have had a particularly good day, which causes interpretation problems for genealogists of our times. A mother may be younger than her daughter, if the mother has been mentioned at all. It used to be a world of men in the old days.

### **History opens through family stories**

In his studies concerning his ancestors and their family members, Jorma has shifted from the Internet to the world of microfilms and old handwriting. He is interested in documents such as tax and military records and judicial decisions. "These provide the topping around mere names of people, and local history can also open new perspectives into the history of Finland. You understand the family legends better if you know history, and history also becomes clearer through family legends," Jorma sums up.

Parish records have provided him with information all the way to the 1670s, which is about ten generations ago. Some branches of his family tree have written sources all the way to the 15th century, assisted by studies made by others and local histories.

Jorma's family has primarily lived in the area of the old Parish of Lapua, i.e. in the present areas of Lapua, Ylihärmä, Alahärmä, Nurmo, Kauhava and Kuortane. His family history is about the history of farms, phases of farm owners, crofters, and farmhands with no farm of their own. There have

Book of confirmations in Kauhava from 1667 to 1697. These types of books are vital parochial sources of information for genealogists.



Jaakko Matinpoika Kattelus and his wife Liisa Greta Juhontytär in the village of Alanurmoo in Lapua in a photograph taken in approx. the 1870s. There is an explanation to the rough cheekbone of Jaakko Matinpoika: he was bruised by cart-wheels, and his wife Liisa sutured the facial wounds as well as she could.

also been some military men and authorities: parish officials, rural police chiefs, and local craftsmen such as shoemakers, tailors and blacksmiths.

"The families of my ancestors seven generations ago give a good idea of my roots. These ancestors were married around 1750. These 64 families, with the exception of one, have become familiar during my studies."

### Fighting and trouble-making in the plains of Ostrobothnia

A famous Finnish folksong describes the furious men of Ostrobothnia, who

used to terrorise their home region in the 19th century. Two of these men, Antti Rannanjärvi, one the most infamous of these madcaps, and Jaska Pukkila, can be found in the seventh generation of the family of Jorma Kattelus. Antti Rannanjärvi and Jaska Pukkila were second cousins of his ancestors while another one of these crazies known as Isoo-Antti was a bit more distant relative, a third cousin.

"The master of the Rannanjärvi es-



A photograph taken in a studio in Turku in the 1860s. The photograph shows Matti Juhonpoika Kattelus from Alanurmoo in Lapua. Notice the hairstyle and clothing typical of those days!

tate in those days was Matti, and he shared the wild temperament of his more famous son. He also used to turn up at weddings without invitation to make trouble, he was fined repeatedly and was summoned to be reprimanded by the church council. Well, he never paid the fines and nobody dared to claim them from him, and he would only turn up before the church council if he felt like it," Jorma says.

He also has a theory about Jaska Pukkila: "The early death of Jaska's father, a respected member of the community, may have had some role in him becoming as wild as he did."

Matti Pukkila, cousin of Jaska's father and an ancestor of Jorma, and his friends settled some old scores at a wedding so forcefully that Matti's opponent died. The victim, who suffered a fractured skull, was taken to

a layman physician in Vaasa a couple of days later. He was so sure of himself that he wrote in the medical statement that he could have saved the victim (who suffered a fractured skull in 1797!) had it not taken so long to deliver him to a medical expert.

Matti Pukkila was sentenced to death, but the sentence was changed to a couple of years of imprisonment. "He returned home to take care of his farm, and my ancestress in the next generation was born," Jorma states.

### No peaceable men in court records

Historical information at personal level mainly consists of details about crimes, disputes and insults. The matters were handled before court, and court records make excellent sources of information. However, it was never recorded if someone was a decent and peaceable person. Information suggesting proper conduct is mostly concluded from information concerning positions of trust or from the fact that a person's name was never mentioned in court records.

The court and church council sessions dealt with matters which may seem to be trivial to us modern people. "It seems that people in the 17th and 18th centuries had better opportunities to obtain justice than we do. In those days, seeking justice was not a question of money," Jorma Kattelus says.

He says that he has heard of many starting genealogists who have finished right away after documents have disclosed that their ancestors had committed crimes or done something

else unconventional. Jorma thinks that finds like that only increase the enthusiasm. "When I have learned to utilise court transcripts and other non-parochial documents properly, I am sure I will find more tales to supplement the numerous old ones."

### Predecessor of social services worked in the 17th century

Even though good deeds do not necessarily make it to history books, Jorma's family contains one celebrity in a positive sense: Antti Hakola, church builder, whose works still exist as national monuments. He built churches such as the old wooden church in Keuruu and the churches of Kuortane and Nurmo.

The fate of the grandfather of Antti Hakola serves as an example of social responsibility resembling that of today: Knuutti Hakola suffered from mental disturbance in his old age and

became dangerous to his wife and children. In 1693, the local community decided to confine this representative of family violence in the insane asylum in Kruunupyy. This cost 20 copper talers, but the social services worked in those days: the municipality of Lapua paid one third of the sum, and Knuutti's family paid the rest.

### Many routes around a problem

Seija Lohikoski, who retired from Fingrid last spring, is an old hand in genealogy. She took the basic course in genealogy as early as the 1970s, and has since then supplemented her knowledge for instance by participating in a course on old handwriting arranged by the University of Helsinki.

Genealogy has fascinated her for decades, but it is only now, after retirement, that she can devote herself to studying the archives full-time if needed – you easily spend the whole



Seija Lohikoski thinks that genealogy is detective work at its best.



day examining the documents, especially if you're "onto something".

"This is compelling detective work at its best. And you also have to be cunning, because if you cannot find some information through one line of investigation, you have to figure out the most complex detours to get to the desired information. Children born out of wedlock and servicemen are the most laborious mysteries, since these do not tend to have the father's name in the old records. You also have to know when to give in when you simply cannot proceed any more. The parish records were burnt in some parishes during Russian oppression of Finland in the 18th century, and in cases like that you cannot go beyond that point."

**Doubt, conclude,  
and keep on verifying**

Seija Lohikoski says that she comes across errors in documents frequently,

**Seija Lohikoski has compiled her family tree into a large wallboard.**

and she points out that being aware of errors is one of the basic characteristics of a genealogist.

"You must be critical about almost all information, you must be able to conclude whether it is even theoretically possible that something is true, and you have to keep on verifying facts, especially dates and years. The parish records were re-written every five years, and the source information was not always transferred correctly. A number 1 written carelessly may have become a 4 or a 7 in the subsequent versions – or anything else. It is imperative to know old handwriting, otherwise you come to a halt as early as the early 19th century," Seija Lohikoski says.

### Electricity transmission in the Mikkeli region strengthened – transmission line work required by the new substation at Visulahti commenced

Transmission line work required by the new substation being built by Fingrid at Visulahti north-east of Mikkeli in Eastern Finland began in early March. The substation will be used for supplying electricity to the 110 kilovolt regional network in the Mikkeli region. The new substation will also enhance system security of the Finnish main grid.

■ Most of the necessary changes to the transmission lines will be carried out by utilising the existing rights-of-ways. New areas are only needed in the immediate vicinity of the new substation at Visulahti and near the present Mikkeli substation. Transmission lines will be modified near the Visulahti substation on 400 kilovolt lines Ylikkälä – Huutokoski and on the existing 110 kilovolt lines Juva – Mikkeli, Huutokoski – Mikkeli, Mikkeli – Ristiina and Mikkeli – Mäntyharju.

The transmission line contractor in this project is Empower Oy. The contract with a total value of approx. 2 million euros will be carried out on a turn-key basis. The contract covers all engineering, building and installation work and materials. By virtue of an earlier agreement, Empower Oy is also responsible for the contract for the Visulahti substation.

### **New gas turbine power plant will ensure the system security of the Finnish power system**

Fingrid has launched a project for the construction of a new 100 – 150 megawatt (MW) gas turbine power plant.

■ The new gas turbine power plant is needed for the management of power reserve obligations belonging to Fingrid's responsibility. Fast production reserve is needed to ensure the system security of the Finnish power system in the event of a malfunction at power plants or in the grid. Most of the company's present gas turbine capacity was built as early as the 1970s, and it needs basic renovation. The new

plant will safeguard sufficient reserve capacity also during malfunctions of power plants and the grid.

The new gas turbine power plant will be built within the Olkiluoto power plant area, and it can also be used for the electricity needs of the nuclear power plants at Olkiluoto. The costs of the plant will be divided between Fingrid Oyj and Teollisuuden Voima Oy. The capital expenditure decision will be made later this year when the final budget based on quotation is known. The plant is expected to be ready by the end of 2007. An environmental impact assessment will be drawn up of the plant.



Photograph by: Juhani Eskelinen

**The contract on the construction of the Toivila – Vihtavuori 400 kilovolt transmission line was signed in April. From the left: Nico Wulf and Jürgen Bettner of SAG Energieversorgungslösungen, Timo Toivonen and Kari Kuusela of Fingrid Oyj. Fingrid's Antti Linna is standing at the back.**

### **SAG Energieversorgungslösungen to construct the Toivila – Vihtavuori transmission line**

Fingrid and the German company SAG Energieversorgungslösungen GmbH have signed a contract concerning the construction of the 400 kilovolt transmission line from Toivila in Jämsä to Vihtavuori in Jyväskylä in Central Finland.

■ The 86-kilometre line will be constructed from Toivila to Petäjävesi at the site of the old 220 kilovolt line Hikiä – Jämsä – Petäjävesi. In addition to the building of the new line, the contract covers the dismantling of the old line and necessary modifications on the 110 kilovolt lines in the region.

Construction work on the line costing approx. 13 million euros will commence in June. The project will be ready in November 2005.



Photograph by: Pasi Aho

**Office building of Lietuvos Energija in Vilnius.**

### **Danish-Finnish co-operation in developing the transmission grid organisation in Lithuania**

Fingrid, together with the Danish company Elkraft System, is contributing to the development of Lietuvos Energija, the transmission system operator in Lithuania, within a twinning project funded by the European Union.

■ The focal areas in the project are legislation, organisation, electricity market, and operation and system security of the electricity transmission grid. The project was launched in the autumn of 2003 and will continue until 2005. The project involves about 20 Fingrid employees as per respective needs. The number of Danes involved is approximately the same, and there are more participants from Lietuvos Energija.



## Words and their meaning

**H**ome, religion, fatherland. Now there are three mighty words which are loaded full of contents: they are associated with a huge amount of individual feelings, our inner emotions. Each apart, they are words that can be studied more dispassionately, but as a chain of words as that above, they represent a slogan of Finnish conservatism, which was either endorsed or mocked about a quarter of a century ago, in the 1970s and 1980s. Supporting or resisting this slogan gained a political and ideological aspect on an axis between traditions and radicalism.

The death of the famous Finnish General Adolf Ehrnrooth some time ago and the related funeral ceremonies put those words back in the spotlight. No matter what you think about the General himself, nobody can deny that he loved those three things passionately. Whenever we meet a person's fervent conviction, we also inevitably need to view our own relationship to the same matter.

Home. This is a warm word, a close word. When the values of Finns have been listed, home (and family, which is often related to it) are among the top three values. Most of us put much weight on buying, furnishing and ren-

ovating our homes. At the same time, we have come to notice that a home is not merely a space with walls and furniture used for living, but a mental state where you can be just what you want to be, with your strengths and weaknesses, a space where you feel welcome. That is so, isn't it?

However, there may be many who claim that the word 'home' is also associated with anxiety. Some people's childhood home may not have been a pleasant place, or the present home may not be what they want it to be. In other words, we carry many types home histories with us. What should be done about this? A lot. All hope is not gone: the past can teach us, we can influence the present moment and the future. It is all up to what we emphasise.

Religion. This is something we tend to be quiet about, and whenever religion is brought up, we get uncomfortable. Religion is almost as taboo as our intimate problems or bank account. And still: it is somehow a crucial question to us all, no matter whether we are atheists, ordinary members of the church or active parishioners. The basic fact is that we all have faith in something, for instance ourselves, we all have hopes,

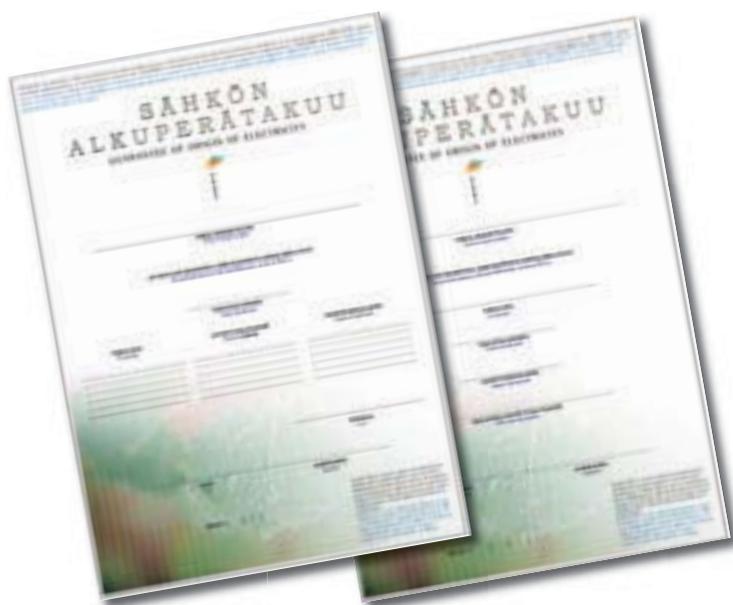
deep down we all want to love and be loved. These three things – faith, hope and love – represent the core of religion. We regard these with silent, bewildered respect. Maybe too much respect and the feeling that we are too small in front of these things is the biggest reason why it is so difficult to talk about religion naturally in everyday contexts. Maybe we also need more room for doubt, searching, critical questions. Even though religion is a highly private matter, it can also be a communal issue in that we could also speak about it in a natural manner with other people, still respecting the conviction of others.

Fatherland. This is not a minor issue, either, the country of our fathers and mothers, ancestors and ourselves, Finland. The country and the people and the language and the culture. What is to become of us? Where do we belong to? What are we associated with? What threatens us? What can we give to others? It is probably so that we cannot live without awareness of a fatherland, nationality. We understand ourselves very much through our nationality. This also involves the other two words, home and religion. With this, I do not mean that we would not have cause for various types of exploratory expeditions to see the multitude of the world and peoples. The best exploratory expeditions take place inside your head. I wonder how it would feel if our globe could be a good home for all people, religions could live side by side in harmony, and us being Finns could encompass not only rye bread, the traditional knife and sauna but also other very exotic and distant elements.

Lari Junkkari



**Lari Junkkari** is a theologian, writer, business coach, supervisor and trainer living in Tampere, Finland. He has a long career among Finnish migrants living in Canada and Sweden, working for the church in Finland, and in recent years as a value trainer of various organisations and as a management coach. His best known books have dealt with manhood ('Mieheksi joka olet', written together with Kaija Maria Junkkari) and on business values and ethics ('Yrityksen arvot ja etiikka', written together with Tapio Aaltonen). His most recent book 'Nykyajan paimentolaiset – työ ja koti maailmalla', written together with Kaija Maria Junkkari, discusses expatriates. His other professional interests include marital and family issues and human life cycle. His hobbies include nature activities and photography.



Certificates for the guarantee of origin of electricity are available both in paper format and electronically.

## Fingrid obtains new duties as the guarantor of origin of electricity

Producers of renewable energy can now obtain a certificate of the origin of their product. In Finland, these certificates are issued by Fingrid.

The guarantee system stems from a Finnish act, based on an EU directive, passed at the end of 2003 concerning the verification of origin of electricity. The guarantee concerns the production of renewable energy as of the beginning of 2004.

Renewable energy refers to wind, solar, geothermic, wave and tidal energy as well as energy produced from hydro-power, biomass, landfill gases, sewage treatment plant gases and biogases. The guarantee of the origin of electricity covers production based on the above sources of energy, and that proportion of production in power plants also firing other fuels which is produced from renewable energy sources.

"This is a voluntary system. Fingrid issues the guarantees of origin at request for the production of renewable energy on the basis of information reported by the producers. The

guarantees are issued either monthly or every six months," says Reima Päivinen, who heads Fingrid's Balance Service Unit.

"Obtaining the guarantee of origin requires that the company has a related service agreement with Fingrid, that an accepted production registrar has verified the power plant, and that the production and fuel information is delivered to Fingrid." The producer of electricity is responsible for the correctness of the information.

Reima Päivinen says that the demand for guarantees of origin has started more actively than anticipated. "By the end of April, about a dozen enterprises have signed the service agreement, and more than 40 power plants have joined the system."

"This interest stems from the so-called Dutch trade, where Finnish players sell RECS (Renewable Energy Certificate System) certificates together with guarantee of origin. The guarantee of origin is also available in electronic format to be transferred through RECS further to Holland," says Reima Päivinen.

Text by: Maria Hallila



## ”Away with fear and just do it!”

Insight and startling ideas in an interaction seminar

TEXT BY: REIJA KURONEN PHOTOGRAPHS BY: JUHANI ESKELINEN



An interaction seminar run by **Ritva Enäkoski** and **Marco Bjurström** makes the participants think about their own input in the welfare of the workplace and in interaction situations. Since you cannot change the other person, you have to start with ”me”, and you are about embark on an exploratory expedition into your own methods of working.



**T**he star hosts and their lively personas gave many experiences to the seminar participants, Fingrid's secretarial team, amidst the midwinter drizzle and darkness. In their characteristic and optimistic style, they brought new faith in our own interaction skills. They also discussed the many pitfalls involved in work through excellent examples, yet with an understanding attitude.

### From good to better

The general atmosphere of a workplace is reflected to the outside, and hence it also influences the corporate functions in unpredictable ways. "When an employee's own quality of life improves, the corporate life improves also," said Ritva Enäkoski and Marco Bjurström.

The views of the two trainers of the development of workplace communities, enhancement of interaction skills and good atmosphere at the workplace are an indication of their desire to help people to confront problems as challenges. Their message is that you need to aim from good to better, not just moan about the existing circumstances.

The goal of the interaction seminar was to identify the pitfalls, various regular features of workplaces, and unwritten rules. Another purpose was to try to identify yourself in various types of situations and to comprehend, for instance, why another person can understand you wrongly. The seminar provided an exploratory expedition to our own working methods, and its goal was to provide insight into the causes and consequences of our action.

### Sound selfishness and room for others

Ritva Enäkoski and Marco Bjurström encourage the participants to raise their own status. It is difficult for Finns, who are often raised in a spirit of modesty, to tell others about things at which they are good.

You can learn to bring forward your strengths without exaggeration. Ritva Enäkoski and Marco Bjurström would like to see more sound selfishness at workplaces. This does not mean trampling down others but pure and simply that you recognise your own value. Self-esteem, even as a word, indicates that you esteem yourself, and rewarding and commending do good for your self-esteem.

You also have to be able to recognise the success of your own work and of the workplace – and to let this show if the reason arises. One good advice is to be serious about your work, not about yourself!

Ritva Enäkoski and Marco Bjurström argue that raising yourself to the pedestal does not exclude consideration for other people. Giving room for other people and a good situational assessment prevent many conflicts and give an opportunity for all to retain their faces.

### Positive game

However, the two trainers point out that there is really no reason to try to avoid conflict at any cost, because in many cases the dispute is not as serious as you may think. In tough situations, you need real communications skills: you should not condemn the other person's peculiarities but to become interested in them and to adjust your own status consciously towards the other party. This is situa-

tional assessment at its best, interaction which takes you to the right direction: to the control of situations, matters and people.

"Do not condemn something off hand if it does not suit you," the trainers said. "Savour the idea, think about it – the matter may contain a real idea and original thought."

Does this not sound a bit like a play? According to Marco Bjurström, roles are a part of our lives. "Interaction is like a play, a positive game, which aims at fluent interaction," he argues.

### Be a star in your own life

Nobody shines like a star at a workplace unless there are other people, an audience to watch. Still, we all want to be stars in our own lives. It is worth while staking yourself: you get feedback, no matter whether you succeed or not. "You can bring more life to your workplace community through roles, gestures, facial expressions and tones of voice. In this way, you can go around the pitfalls and take things forward smoothly. You can also make another person a star by listening, asking, being present and interested," Marco Bjurström encourages us. "Just give your 100 per cent!"

He also urges us to use our body language: expression and assertiveness, which the subconscious codes to suit the situation.

The faith in the future and life can be seen in you: "Away with fear and just do it," Marco Bjurström says and throws in another interesting thought: "Don't become your own job description!"



### Customer information session provided a concise package of Fingrid's outlook

A customer event arranged by Fingrid in March attracted an audience of almost 100 experts in Helsinki. The three-hour event contained a concise information package on the company's outlook for the near future, grid contract for 2005 to 2007, co-operation in grid development, and European market developments.

■ Timo Toivonen, Fingrid's President, gave first a short account of the past year, during which electricity consumption in Finland grew by 1.4 per cent, and transmissions in the main grid by as much as 8 per cent. The consumption peak in the winter was reached in the evening of 11 February, when consumption rose to 13,400 megawatts. However, this was not close to the all-time high consumption peak of 14,040 megawatts from early January 2003.

Timo Toivonen stated that the increase in the transmission volume was mainly the result of the Nordic power and energy situation and higher electricity imports from Russia. The increased transmission needs led to occasional transmission congestions, even though the area price differences were small. The electricity consumption, import and export figures indicate that the imports from Russia in-

volved a considerable volume of transit transmissions.

According to Timo Toivonen, comparing the difference between area prices and system prices over the past four years gives a clear conclusion: there is need for additional transmission capacity. "And the water reservoir situation continues to be fairly bad; we are on the lower limits of the minimum curve of the 1990s," he reminded the audience.

When discussing projects taking place in the near future, Timo Toivonen stated that the connection of the new nuclear power plant to be built at Olkiluoto to the power system is the most topical project.

"The specifications of the plant are such that it fulfils the conditions of connection to the power system. However, as the transmission system operator, Fingrid must also be prepared to a situation where the plant gets suddenly disconnected from the grid. We are creating a system which will disconnect, if needed, about 250 megawatts of industrial loads. This is a new experiment in Finland, and we need to remember that the size of the new plant, 1,600 megawatts, is large from a power system point of view."

Other major projects in the near future include the 100 to 150 mega-

watt gas turbine power plant to be built by Fingrid in the Olkiluoto power plant area for reserve needs existing in the power system, and analysis for the Fenno-Skan 2 sea cable. "If this cable project, which has relevance in view of the functioning of the electricity market, becomes reality, Fingrid will pay half of its costs. The Swedes will be responsible for the other half. Administrative studies are still incomplete in Sweden, which means that the connection will not be ready before 2009 or 2010."

The Master Grid Plan, the Nordic grid vision for 20 years ahead, was the topic of the presentation of Pertti Kuronen, Fingrid's Grid Service Director. The Plan starts off from the functioning of the Nordic electricity market from a point of view of national economy, with focus on the prioritisation of critical transmission connections, so-called intersections, as well as cost/yield analyses. At the moment, there are ongoing studies of the 11 most crucial intersections in the Nordic grid.

The Nordic Grid Code will also be finalised during this spring. The Code contains the planning and operating principles for the 400 and 220 kilovolt grid as well as terms of connection. The Code contains some degree of harmonisation. Further development of the Code will take place in 2004 and 2005. "During this stage, we will find out whether the action taken has given the desired level of system security, and we will also discuss transmission needs which change as a result of the development of the electricity market," Pertti Kuronen said.

Text by: Leni Lustre-Pere

Photograph by: Juhani Eskelinen

## All in a day's **WORK**

In this column, Fingrid's employees write about their one day at work.

This time, the article has been written by **PASIAHO**, who works as Group Supervisor in Balance Management.



### WE BECAME BRICKLAYERS, TAXI DRIVERS... AND ENGINEERS

It's a snowy Friday afternoon. I am sitting in my car on the way home from work. The centre of Helsinki is filled with the traditional Friday traffic jam, and I am awaiting the red traffic lights to turn green. It is nice and warm in the car, and my mind goes back to the events of the past day and week and to the coming weekend. In the passing, I also remember the writing task for the column "All in a day's work".

■ The car radio is playing a popular song by Anssi Kela. The song is about how his classmates became bricklayers, taxi drivers, shoemakers, single moms, car dealers, doctors, civil servants, sergeants, anything possible. The lyrics lead my thoughts to the past week and the varied task I had. My week has also contained quite a few professions!

■ Just before I left work, I mailed invitations for tenders for a data system relating to a control room. Before this, the matter had been prepared through preliminary analyses, specifications and numerous meetings. We had drawn up need specifications, drafted the invitation for tenders and examined potential bidders. The project team has now reached an intermediate point as the invitations for tenders have been mailed. I have been involved in making and building something new, so I could say I am a "bricklayer" or a "builder".

■ I also served as a "fireman" on Monday. A colleague of mine had fallen ill all of a sudden, and he was to receive visitors during the day to visit Fingrid and our Power System Control Centre. This job was reassigned to me. There was some time before the guests were to arrive, so I looked up our general slides and picked the most common ones of these. My own files provided a few more sheets, so I had a decent package of facts. A quick look in the mirror – and towards the blazes!

■ On Wednesday I tackled a draft agreement. I had drafted an agreement relating to balance service and sent it for comments to some experts and colleagues within our com-

pany about a week ago. By the deadline, I received several Word documents with many good comments. Alongside my other duties of that day, I went through the comments and started to put together an amended version of the agreement. After a few discussions and specifications, I had a new version. I read it through once more and sent it for re-circulation. After this, I felt like a "tailor" who has just put together a new coat.

■ The Twinning project in Lithuania, pursued by Fingrid's International Business Operations, has also advanced during the week. Martti Merviö, Pasi Lintunen and I have been preparing a trip to Vilnius. Our purpose is to make the first visit of the Electricity Market team of the project in the near future. We tried to match our schedules together and further to the schedules of our Lithuanian colleagues. We also agreed on the division of duties: who prepares what for presentation. Finally, we found a shared day and also stated that it is a good idea to download your computer with information using the principle of having something about everything.

■ During the week, I also participated in a few meetings examining the functioning of the regulating power market, discussing and analysing operational situations from the viewpoint of balance management, pondering on issues and sometimes also their sidelines – and also achieving results. E-mail and other routines govern work to an ever increasing extent. During the past week, I have written, answered to, commented on and forwarded dozens of e-mail messages. And it just keeps growing...

■ I return from my thoughts as I hear cars hooting behind me. The traffic light has turned green, and the motorists behind me feel that it is time to move on. I shift the gear and start off. On the radio, Anssi Kela is finishing his song "...and today we can be kings for a while". He does not say anything about engineers at Fingrid.

# FARMARI 2004 agricultural exhibition in Mikkeli 29 Jul – 1 Aug



**Life in**

## **TRANSMISSION LINE AREAS**

### **and adjacent to a transmission line**

**Welcome** to Fingrid's stand at the Farmari 2004 agricultural exhibition to see, hear and discuss the ways in which transmission line areas can be utilised, and any other matters that are related to transmission lines.

Life in transmission line areas has inspired artist Satu Natunen to produce the weaved work "Marjastajat" (Berry pickers), which can also be seen at our stand.

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