

HMS

Statnett

C4 HSE ACTION PLAN 2016–2017

“The clear line” makes projects safer

PAGES 4–7

The hunt for good stories

PAGE 12

The way forward

PAGE 28



EDITORIAL



Photo: Trond Isaksen

“Our goal is to develop an electric future – safely, smartly and efficiently.”

AUKE LONT / PRESIDENT & CEO / STATNETT

Safety is our top priority

We are constructing power lines and substations at a pace like never before. The power system is set to undergo significant changes over the coming decade, and we are planning for a future where electricity will play a more important role than it does today. Our social responsibility is extensive and exciting, and skilled employees and suppliers are crucial to our success. No matter how large and exciting the task ahead may be, however, we will never compromise on personal safety.

Our goal is to develop an electric future – safely, smartly and efficiently. “Safe”, “smart” and “efficient” are all interconnected concepts, in that it is both efficient and smart to prioritise safety.

This magazine is devoted to safety – more specifically to the results we have achieved thus far in our work on the HSE action plan we launched last year.

HSE has topped the agenda at Statnett for a number of years now, and we have achieved encouraging results. Unfortunately, contractors working for us experienced two fatal work accidents in the early summer of last year. At the same time, we noticed that our HSE results curve had been levelling off for some time. Naturally, we had to “raise our game” once more.

Our new HSE action plan, known internally as C4, is one of our responses to this challenge. The action plan is divided into four main areas, featuring different initiatives within each area. In the area we call **Control**, we took a good look at HSE risk management in projects and the role of construction client. This involved defining what our responsibilities are – and are not – and how we can be more unambiguous about our role as the construction client. The area we call **Contract** centres on being clearer about our HSE requirements and our relationships with our suppliers, as well as how we qualify suppliers and how we design and monitor contracts. In order to strengthen our **Culture**, our third main area, we have, among other things, established a set of Life-saving Rules. Meanwhile, the area we call **Consolidation** focuses in particular on the balance between our capacity, capability and our project portfolio – an area in which we have taken steps to reduce the scope and pace of a number of projects. Each initiative will be presented in more detail in this magazine.

We want to go further. We want to be better. We want to be among the very best in the field of HSE. And the overarching result of this ambition is: We want everyone to come home safely from work.

A handwritten signature in black ink, appearing to read 'Auke Lont'.

Auke Lont, President & CEO



4-7

CONTROL: THE CONSTRUCTION CLIENT ROLE

“The clear line” is to make our projects safer

CONTENTS

4 CONTROL: CONSTRUCTION CLIENT ROLE
“The clear line” is to make our projects safer.



8 CONTROL: HSE IN PROJECT DESIGN
Good project design
= lower risk.

10 CONTROL: ROLES AND PRESENCE
Clear presence with a solid understanding of own role.

12 CONTROL: HSE BEST PRACTICE GROUP
His task is to track down good HSE stories.

14 CONTROL: ANALYSIS AND LEARNING
– We have to get better at learning from one another.

17 CULTURE: COMMUNICATION
We aim to continue building on a clear HSE culture.

18 CULTURE: LIFE-SAVING RULES
Nine simple rules to save lives.

20 CONTRACT: HSE AND ELECTRICAL SAFETY REQUIREMENTS
HSE requirements to be clarified in contracts.

22 CONTRACT: QUALIFICATION
New qualification process differentiates HSE requirements by risk.

24 CONTRACT: CONTRACT MONITORING
Improved contract monitoring.



25 CONSOLIDATE: RESOURCE DEVELOPMENT AND MANAGEMENT
No need for increased Statnett staffing on each project.

26 CONSOLIDATE: BALANCE THE PORTFOLIO
Improved balance between needs and capacity.

28 THE WAY FORWARD
It's time for everyone to pull together.





Photo: Johan Wildhagen

CONTROL: THE CONSTRUCTION CLIENT ROLE

“The clear line” is designed to make our projects safer

“We must all share the same understanding of the Construction Client Regulations and carry out our tasks as construction client in a clear and appropriate manner. ‘The clear line’ helps us define how to divide responsibility between Statnett and our suppliers in the context of construction projects,” explains Manager of Construction Management Odd Nisja, who was in charge of the work to define how Statnett should perform its role as construction client.

Working on projects where Statnett is the construction client is common practice for many here at Statnett. We are currently experiencing a period of high construction activity, and a lot of our employees spend their days working on construction projects.

“The Construction Client Regulations state that, as the construction client, we are responsible for OHS at the construction site. At the same time, our suppliers have a responsibility in terms of HSE for their own personnel at the site. In other words, everyone must have a clear understanding of their roles

and assignments, both in specific situations and within the project as a whole,” emphasises Odd Nisja.

Clarity is key

Odd Nisja is Manager of Construction Management in Statnett’s Construction Division. He has been working with a large and diverse team on the construction client role.

In this context, “the clear line” has an important role to play. In fact, “the clear line” is specifically designed to ensure there is a clear division of responsibility between the construction client and supplier, and it applies to all areas of a contractual

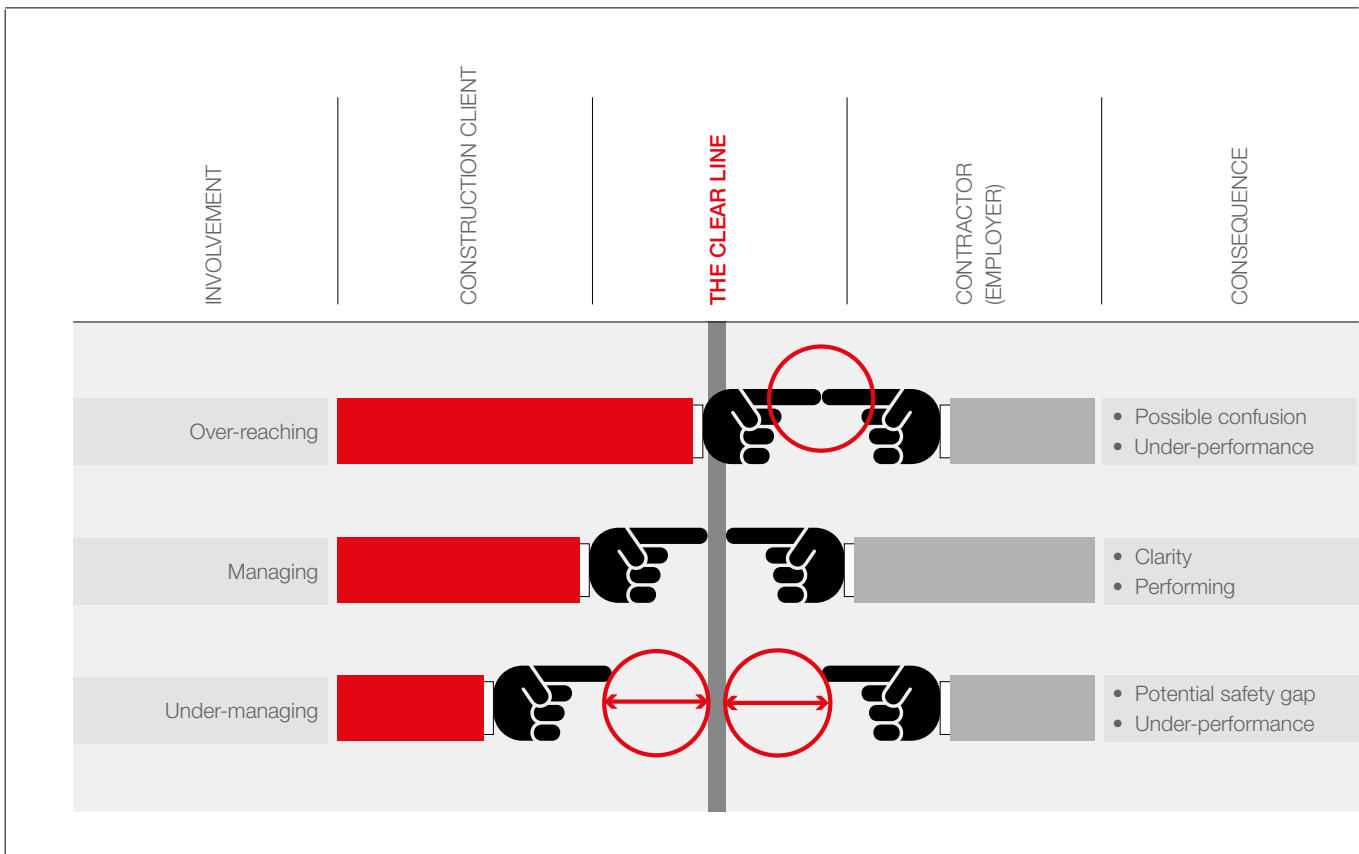


HSE or OHS – What’s the difference?

It is easy to confuse these two concepts, but there is a key difference. Health, safety and the environment – abbreviated as HSE – are aspects all workplaces need to take into account. Both employer and employee are obliged to work systematically to prevent injuries and any other harm to employees’ health. This concept is laid down in the Norwegian Internal Control Regulations.

Another concept, OHS, is also applied in the building and construction industry. OHS is an abbreviation for

Occupation, Health and Safety, and the concept stems from the Norwegian Construction Client Regulations published in 1995 (revised edition in 2010). The intention here is to protect employees at building and/or construction sites from dangers by taking safety, health and the working environment into account in connection with project planning, design and execution. The concept of OHS is used exclusively in connection with workplaces of this kind.



relationship. The figure shown here demonstrates how the division of responsibility between Statnett and suppliers should function in practice.

As the construction client, Statnett is responsible for OHS, while suppliers – as employers – are responsible for the safety of their own personnel. The objective is to avoid any potential confusion between the contractual parties, which could, in the worst case, result in greater risk.

“However, as the figure shows, we can also become too complacent. In this context, I want to stress that if you see a potentially hazardous situation, you must obviously step in and take action. We must follow up all such incidents by implementing jointly agreed measures aimed at restoring the original division of responsibility between ourselves as construction client and the supplier. We have also developed a set of guidelines to help us understand how to set ‘the clear line’,” explains Odd Nisja.

“Our aim is to help one another be good at what we do without altering the division of responsibility. Our suppliers are directly responsible for ensuring that their own employees use the appropriate safety equipment. At the same time, it’s up to us to make sure that our suppliers (i.e. the employers) have the necessary HSE management systems and inspection routines in place, so that they actually do keep their employees safe. We must be able to trust each other. It’s not our job to keep tabs on every single person working on our construction sites.

That’s why Statnett must only contract professional suppliers who deliver the right quality and who perform their work safely.

“The role of construction client rests on our shoulders for the full duration of the project. Consequently, we need to be conscious of our specific responsibilities during both planning and execution. That is no simple task, and there are numerous situations where it can actually pose quite a challenge in practice.

“Simply put, we need to place greater emphasis on our OHS responsibility in the planning phase. This also relates to how we ‘do the groundwork’ for the people who will subsequently be operating and maintaining our plants, installations and facilities. During the execution phase, we need to strive for a balanced relationship with our suppliers – and it is here that ‘the clear line’ comes into play, clarifying who is responsible for what,” emphasises Odd Nisja.

Comprehensive training programme

We are currently implementing “the clear line” in our projects. This autumn will see the launch of a comprehensive training programme that includes courses designed to ensure that everyone who works on our projects and in our operating organisation shares the same understanding of roles and responsibilities. Siw Anethe Rinker, Section Manager for OHS in construction at Statnett, is responsible for this work going forward.



Photo: Audun Roe Grimstad, Nucleus

“It’s crucial that everyone shares the same understanding of who is responsible for what, and of what our final objective is. That’s why we’ll be running basic courses for everyone involved in our projects. We’ll also be holding courses for our frontline staff who work on our network facilities. Finally, we’ll have specific courses suited to the different management roles in the construction client team,” tells Siw Anethe Rinker.

“It’s crucial that everyone shares the same understanding of who is responsible for what, and of what our final objective is.”

SIW ANETHE RINKER / SECTION MANAGER FOR OHS / STATNETT

How to be clear in the role as construction client is also one of the themes of our safety project SIKKER (SAFE), which is a tool for our project management staff and construction client teams. They will be using SIKKER throughout all the different project phases to build up a robust safety culture, and to ensure that we focus on how to be clear in our role as construction client.

“We still expect that we will be able to maintain a smooth working relationship with our contractors out on the construction sites,” emphasises Siw Anethe Rinker.

“SIKKER consists of three modules: SIKKER Byggherre (SAFE Construction Client), SIKKER Byggeplass (SAFE Construction Site) and SIKKER Entreprenør (SAFE Contractor), and several of our projects have already been introduced to different aspects of the tool. We plan to update the SIKKER project regularly to ensure that key topics from the C4 HSE action plan are carried over to the project and are communicated to construction site teams,” she adds.

“With our training programme, we can focus on ensuring that both the professional environments that provide the resources and the projects that monitor the execution share the same understanding of our role as construction client and the responsibility this entails. Quite simply, it is the key to our success,” concludes Odd Nisja.

CONSTRUCTION CLIENT REGULATIONS

The purpose of the Construction Client Regulations is: “to protect employees from risks by paying regard to safety, health and working environment on construction sites in connection with planning, project preparation and execution of building or civil engineering works”.

Good project design = lower risk

International statistics demonstrate that half of all accidents during the construction phase could have been avoided if there had been greater emphasis on HSE during the project planning and design phases. It follows that the solutions we choose during the project design phase are crucial for ensuring the lowest possible risk when construction actually starts. Statnett is implementing new initiatives that will give us a boost in this area.

“Statnett has always worked to reduce risk through good project design, so it’s not a question of embarking on something completely new. That said, we have to be even clearer and take an even more systematic and interdisciplinary approach to our work if we are to reduce risk as far as possible before our projects move into the construction and operation phases,” says Greta Bjørnbeth, who headed up the HSE initiative in project design. She is Senior Vice President of the Technology Unit at Statnett.

Integrated OHS work

One of the key initiatives is that the OHS (Occupational Health and Safety) process has now become a fully integrated part of Statnett’s project design processes. We have clarified the responsibilities and duties of our project designers and the OHS coordinator in design phase, and we have updated job descriptions both for the OHS coordinator in design phase and for the project design manager, to match Statnett’s objective of taking on a clearer role as construction client, where we follow “the clear line” in all our interactions with the people and companies who work for us.

“We have a shared responsibility to eliminate as much of the risk as possible in advance through good project design. The residual risk that we end up with in our OHS plan becomes part of the basis on which contractors are requested to submit their tenders. Once they have submitted their tenders, it is important that we choose contractors who will carry out their work as safely as possible. From this perspective, it’s important to remember that the Construction Client Regulations do more than simply require us to describe risk. In fact, one of our key tasks is to use the OHS plan to specify measures and outline the requirements for executing the work.

“We generally outsource our project design work either fully or in part, which means that we have an obligation to follow up and check that the work is done properly. No matter what, we cannot waive our responsibility as the construction client, and we must have clear processes for how to follow up on our project designers,” explains Greta Bjørnbeth.

Interdisciplinary work on technical safety

Statnett is in the process of establishing a new function for technical safety with a view to providing technical solutions, methods and tools aimed at ensuring the greatest level of safety during the construction phase and during operation. The function will ensure better utilisation of the knowledge that already exists throughout the Statnett organisation.

“We work tirelessly to safeguard personal safety as far as possible when choosing and developing new solutions and tools. This is a line responsibility, and in this context, we have noticed there is much to gain from encouraging different Statnett units and divisions to adopt an interdisciplinary approach more often. The new function for technical safety will make it easier to coordinate work within this area and contribute to finding solutions in the long term. We already see good, practical examples of this kind of collaborative work. For example, those responsible for designing buildings have teamed up with the operational organisation to develop a new standard for emergency exit routes. We’ve also launched an interdisciplinary project to reduce the risk linked to working at height. This kind of interdisciplinary collaboration is sure to become even more common in the future,” concludes Greta Bjørnbeth.

THE ROLE OF THE CONSTRUCTION CLIENT IN PROJECT DESIGN

During project planning and design, the construction client shall particularly safeguard health, safety and the working environment by making appropriate architectural, technical and organisational decisions, describing and considering risks, and allowing sufficient time for project design.

(Construction Client Regulations)

“We work tirelessly to safeguard personal safety as far as possible when choosing and developing new solutions and tools.”

GRETA BJØRNBETH / SVP / STATNETT



Photo: Audun Roe Grimstad, Nucleus



Photo: Johan Wildhagen

Clear presence with a solid understanding of our role

Statnett aims to be a clear and present construction client, committed to ensuring that occupational health and safety are prioritised. However, when we emphasise presence during construction projects, it does not necessarily mean we will be sending more people out into the field. It is more about making sure that everyone from Statnett fully understands their role and carries it out proactively in relation to both the contractor and their colleagues in the construction client team.

Our work on roles and what it means to be present has resulted in a definition of “presence” in the execution phase of Statnett projects, as well as updated processes and role descriptions that are aimed at helping us be even clearer in our role as construction client.

“Instead of having more people from the construction client team at the construction site at all times, we need to become better at defining who should be where and what they should be doing there. As our projects are so varied in terms of type and scope, it’s impossible to set fixed standards for what constitutes ‘sufficient and competent presence’. However, we can make it easier to plan appropriate presence in the relevant arenas,” explains Carsten Dovland, who headed up the group. He is head of the project management department in Statnett’s Constructions Division.

Appropriate collaboration

The updated processes and role descriptions are intended to make it easier to follow “the clear line”. Project Managers, OHS Advisors, OHS Coordinators in the Design Phase, OHS Coordinators in the Execution Phase, Project Design Managers and Construction Site Managers are just some of those whose roles are being clarified with updated role descriptions that define more precisely their duties and responsibilities. At the same time, this work will include updating our project management processes – including OHS, Project Design and Construction Site Management – on the basis of the new definition of presence.

“This is important for how we interact with each other and with our contractors. When the right people talk to each other about the right issues in the right arenas, it will secure that HSE regulations are met at the construction site,” emphasises Carsten Dovland.

PROJECT ROLES

Project Manager:

Responsible for ensuring the project objectives are achieved through management and control within the project framework; responsibility and authority laid down in the project’s steering document.

OHS Advisor:

Supports Statnett projects to ensure they comply with OHS regulations, internal OHS processes and procedures, and fulfills OHS Key performance indicators (KPIs). The OHS Advisor supports OHS Coordinators in both the design and execution phase.

OHS Coordinator in the Design Phase:

Responsible for coordinating disciplines in the design of a solution to ensure OHS risks are identified and if possible removed by a different design. Ensures remaining OHS risks are documented for the execution phase for risk handling by the contractors.

OHS Coordinator in Execution Phase:

Ensures the remaining risks are documented and understood by the contractors. Supports Statnett in updating OHS risks and controls that the work schedule has sufficient time for secure operations. Controls that contractors have implemented systematic health, environmental and safety activities, and that they are handling project specific risks as agreed in contract.

Project Design Manager:

Ensures the design is unified and coordinated across disciplines, and that the OHS risks identified are considered and minimised as early as possible. In the execution phase, the Project Design Manager ensures the assumptions in the design phase are correct or if other risks needs to be handled.

Construction Manager:

The Construction Manager is the on-site manager for Statnett’s site team in the execution phase and is responsible for securing and controlling that the suppliers deliverables meet contract requirements regarding OHS, quality, cost and schedule.



Photo: Jan Arne Wold



Photo: Audun Roe Grimstad, Nucleus

“When the right people talk to each other about the right issues in the right arenas, it will secure that HSE regulations are met at the construction site.”

CARSTEN DOVLAND / HEAD OF DEPARTMENT / STATNETT

Best practice, HSE:

His task is to track down the good HSE stories

Werner Schuhmacher heads Statnett's new initiative to pick up on the company's Best Practice in the field of HSE. The intention is to learn and share positive HSE experiences across the organisation to support Statnett's vision of zero injuries.

The objective of the group tasked with identifying examples of HSE best practice is to collect and process the good and positive HSE stories from all parts of the organisation, leading to proposed shared HSE measures.

As the newly appointed head of the initiative at Statnett, Werner Schuhmacher will be spending a great deal of time visiting Statnett's facilities and projects. He wants to see, hear and learn about good examples of HSE in practice, which the entire company can subsequently benefit from. Based on mapping, collection and evaluation of good practices, the group will progressively draw up new and shared "Lessons Learned" including proposals of specific measures.

"I think it's important to focus on the positives – on things that have proven to work well, especially with regards to work methods, practices and processes.

Our goal must be to pick up on the good stories," says Werner Schuhmacher.

"The group will be actively spreading information about how we at Statnett deal with our HSE responsibilities and commitments, and we are keen to get started joining and participating in existing HSE arenas, both internal and external. We will also actively seek and share knowledge and learnings from our contractors, other stakeholders in the energy sector and more broadly," he adds.

Werner Schuhmacher reiterates that the group primarily has an advisory role, and that the process owners, line management and project management have the final say in implementation.

“I think it’s important to focus on the positives – on things that have proven to work well, especially with regards to work methods, practices and processes. Our goal must be to pick up on the good stories.”

WERNER SCHUHMACHER / SENIOR CONSULTANT / STATNETT



Photo: Audun Roe Grimstad, Nucleus

CONTROL: ANALYSIS AND LEARNING



Photo: Gro Walden

– We have to get better at learning from each other

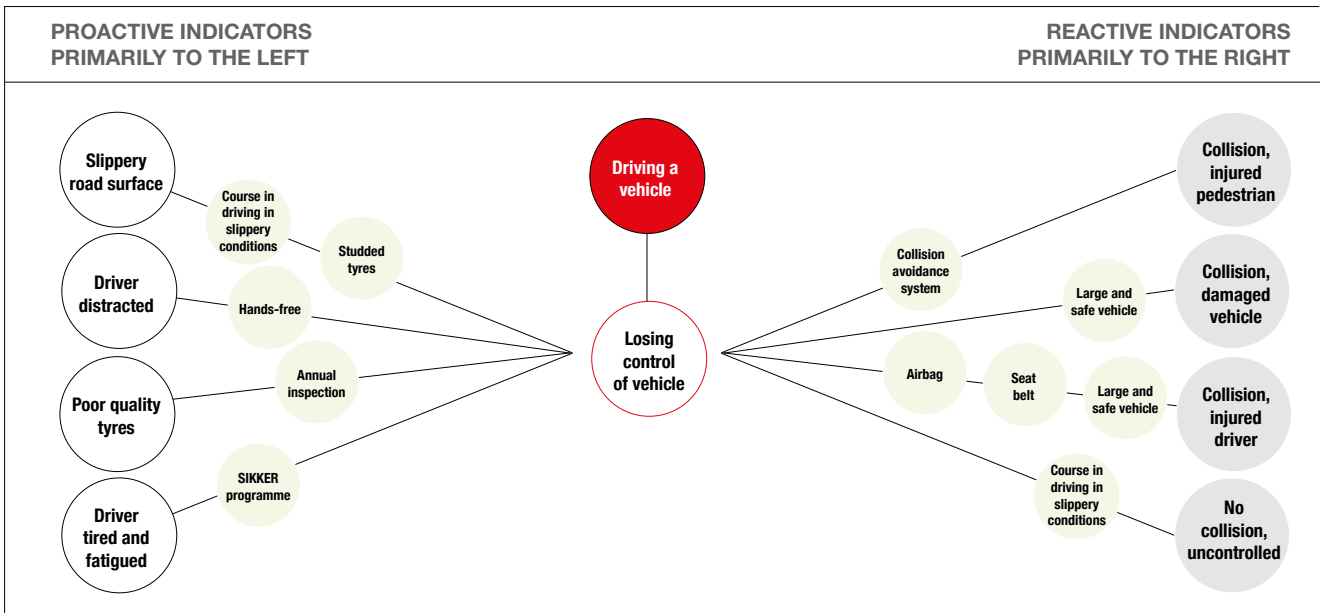
Statnett is looking to use both reactive and proactive indicators for HSE conditions in an effort to reduce the general level of HSE risk throughout the organisation. At the same time, we are focusing on becoming even better at learning from each other, both in projects and during operation.

Håkon Fartum, HSE Manager in Statnett's ICT Division, is the man tasked with heading up the crucial work to establish proactive measurement indicators as a supplement to the reactive indicators that we have used to date. Statnett expects that these new indicators will contribute to an improved understanding of the development of overall HSE risk, so that we can implement appropriate measures before unwanted incidents or accidents occur.

"We believe that proper management of HSE risk involves both proactive and reactive indicators. We need to continue

to report and interpret accident statistics and details of other incidents. In addition, we need to follow up with proactive HSE indicators, which can show whether the risk level is changing – before it changes – and help us make the right choices in advance," explains Håkon Fartum.

"Some people have been asking us: 'Does this mean you'll be doing away with LTI statistics?' The answer is no, we won't. Rather, we are working with a set of indicators comprising both reactive and proactive – or leading – indicators," he adds.



Håkon Fartum goes on to explain that the farther back in the causal chain an indicator is positioned, the more “leading” it is. For example, the ability to practise good maintenance management will be more of a leading indicator than the use of safety equipment. Consequently, it is a matter of identifying and measuring different variables as early as possible in the causal chain, in order to come up with efficient measures capable of reducing HSE risk.

Improved quality of HSE training

In addition to establishing proactive indicators, the workgroup led by Håkon Fartum also took a closer look at how to provide everyone who works at Statnett with improved access to updated HSE information. While one approach may be to set up better and simpler digital interfaces, the group is also assessing a new collaboration tool:

“This will enable different groups to get together and share competence irrespective of time and physical location. We already have a solid basis of experience, but we need to get better at using it correctly,” emphasises the HSE Manager.

This includes making HSE knowledge more readily available to all Statnett employees. Experience from sources including investigations and “Lessons Learned” should reach more people, and our overview of skills and expertise must also be updated more regularly. Håkon Fartum is convinced that the new sets of indicators and learning tools will constitute a giant stride in the right direction:

“We have to get better at learning from each other; we have to learn from non-conformances and provide feedback to the people who reported them, so that the knowledge we acquire leads to a change in the way we manage our operations. In addition, we need to shift our focus to the underlying factors rather than the actual incidents or errors. We have already drawn up a long list of measures designed to make us better,” he adds.

“Some people have been asking us: ‘Does this mean you’ll be doing away with LTI statistics?’ The answer is no, we won’t.”

HÅKON FARTUM
HSE MANAGER
STATNETT

Reactive indicator	Proactive indicator
<p>“Measures the results and outcomes of a process or a task.” (Reiman and Pietikäinen, 2012)</p> <p>Also called a “result indicator” and a “lagging indicator”.</p> <p>Used to monitor changes and trends in the frequency of different types of incidents.</p>	<p>“Indicator that changes before the actual risk level has altered.” (Kjellén, 2009)</p> <p>Also called a “leading indicator”.</p> <p>Used to power and measure activities performed to avoid and limit accidents.</p>



Photo: Johan Wildhagen

Must understand the trends

Statnett hopes that the recommendations from Håkon Fartum's workgroup will result in new and improved HSE routines. In the long term, this should make the working day even safer for everyone who works at or for Statnett.

"Let's move away from reporting and towards analysis and learning. We have to understand the trends – not just the figures."

A dashboard for management

The new sets of indicators are primarily intended for follow-up by Statnett Group management, but they can certainly also be used by other parts of the organisation.

"In practice, I don't think this will have a major effect on the everyday work of most Statnett employees, even though it will be a topic of discussion and applied in a variety of contexts. For the Group as a whole and for our overarching HSE management approach, however, it can take the form of a 'safety dashboard' – i.e. we can use it to manage risk, interpret the situation and implement measures in areas where it makes the most sense to allocate resources," says Håkon Fartum.

He concludes by explaining that the intention behind the new sets of indicators is to allow Statnett to implement initiatives earlier than before, which will in turn make it easier to predict the scope of future HSE incidents. While the area as a whole will be followed up and utilised at the Group level, individual organisational units may benefit from using selected, relevant indicators based on the risks they encounter on a daily basis.

Photo: Audun Roe Grimstad, Nucleus



“Let's move away from reporting and towards analysis and learning. We have to understand the trends – not just the figures.”

HÅKON FARTUM
HSE MANAGER
STATNETT



“We place great emphasis on clear roles and responsibility, and on an HSE culture where it is easy to make the right choices.”

IRENE MELDAL
VP CORPORATE COMMUNICATIONS
STATNETT

Photo: Michaela Klouda

CULTURE: COMMUNICATION

HSE communication:

We aim to continue building on a clear HSE culture

The magazine that you are holding in your hands is one of the ways we are sharing the lessons learned from our work on the HSE action plan over the past year.

Statnett's emphasis is currently shifting to the roll-out and implementation of the various HSE initiatives that the workgroups have developed. Each programme contains a great deal of excellent training and clear messages worth sharing both internally and externally.

HSE is not new at Statnett. The company's No. 1 priority is that everyone should come home safely from work. Nevertheless, the HSE initiatives in this action plan have something new to offer in terms of raising awareness, changing attitudes and introducing improved routines. For example, a better understanding of our role as construction client and being familiar with Statnett's Life-saving Rules are sure to play a key role in the development of the culture the HSE action plan is designed to boost, which is why they must become second nature to all Statnett employees. In addition, it is important that both our contractors and other partners are aware of the rules in effect on our construction sites, and the role assigned to us by the Construction Client Regulations.

We place great emphasis on clear roles and responsibility, and on an HSE culture where it is easy to make the right choices. Training and communication have natural roles to play in this work.



Photo: Trond Isaksen

Nine simple rules to save lives

High risk demands even higher safety. Our Life-saving Rules have an essential role to play in creating an accident-free workplace for all Statnett employees – and everyone else who works on our projects.

“It is possible to prevent occupational industrial injuries, as long as we plan properly, take the necessary precautions and follow the applicable safety requirements. In order to achieve our ambition of zero injuries, our aim was to focus on what we have the greatest potential to prevent – and that is what finally became the basis of Statnett’s Life-saving Rules,” says Anders Mathisen, HSE Manager at Statnett.

“We have many rules, regulations and procedures to follow,” he continues, “but our Life-saving Rules are the most important rules relating to the work carried out under the auspices of Statnett. Our task was to pinpoint the most important existing rules and regulations; to ensure they would save lives; to simplify the understanding of what we must and must not do; and to make sure that they would be easy to observe.

The workgroup engaged in the ‘Life-saving Rules’ project started out by examining overall risk, based on accidents, incidents recorded in the non-compliance register, audits and inspection reports. Once they had identified the work assignments with the most incidents and the highest risk, the group turned its attention to the barriers that could have prevented a given incident and/or lessened the consequences.

Following a broad pre-implementation phase that led to a number of adjustments, Statnett officially adopted the nine Life-saving Rules. All the rules are based on applicable requirements in current laws and regulations.”

“The content is nothing new, but we’ve distilled the essence of the safety measures and created a shared platform for presenting the message. Even though we set essential

premises for HSE during planning phases, the rules make an important contribution to keeping our workplaces accident-free,” explains Anders Mathisen.

He led the task of documenting what is, in many ways, a set of “common sense rules” for Statnett’s employees and contractors. Everyone is obliged to familiarise themselves with – and to abide by – the nine rules.

Learning from previous accidents

The HSE Manager adds that we have to learn from experience from previous work-related accidents and incidents. Accordingly, in the process to draw up the Life-saving Rules, the workgroup carefully studied existing accident reports to pinpoint incidents and events with serious or even fatal consequences.

Among their conclusions, they determined that there was a preponderance of fatal accidents involving work at height, as well as a disproportionate number of incidents with appreciable improvement potential in the context of electrical safety work. As a result, the group decided that it was important to include rules that could effectively limit fall accidents, as well as incidents involving the use of machinery and equipment in the vicinity of high-voltage installations.

Even though there is an obvious risk linked to working at height, the greatest number of incidents occurred in connection with traffic and transport, in addition to failure to use appropriate protective equipment. In other words, this is an area with significant potential for reducing injuries.



All the nine Life-saving Rules must be easy to follow, and it must be easy to check that employees are following the rules. Nevertheless, the workgroup also chose to address potential hazards associated with employees arriving at work under the influence of drugs or alcohol, even though this may not necessarily be easy to monitor in practice. This is also the only rule included on the basis of external statistics, rather than based on own experience or records from Statnett.

Major ambitions for the Life-saving Rules

The work to roll out the rules is already well under way, and the first step involves raising general awareness throughout the company. Anders Mathisen says that efforts will be stepped up appreciably over the course of the autumn:

“We will be launching a training pack for the Life-saving Rules, including examples and video clips, in the autumn. At the same time, it is essential that all employees are aware of the rules, so we will be working to reach everyone with the relevant information. In the months leading up to Christmas, we will be releasing a new training pack and then visiting different plants and substations before deciding how to proceed in 2018.”

He goes on to explain that the workgroup is now focusing on developing the elements in the Life-saving Rules programme, and planning how to communicate the message:

“We have already prepared posters and brochures, and will be adding video content to the list. In addition, we’ve been thinking about using mobile interfaces and VR (Virtual Reality) in connection with the training,” he concludes.

“We will be launching a training pack for the Life-saving Rules, including examples and video clips, in the autumn. At the same time, it is essential that all employees are aware of the rules, so we will be working to reach everyone with the relevant information.”

ANDERS MATHISEN
HSE MANAGER
STATNETT

SEE SEPARATE POSTER

The nine Life-saving Rules are enclosed in the magazine as a separate poster. Take it out and hang it up at your workplace.

HSE requirements to be clarified in the contracts

A new contract structure and reinforced project design processes are being implemented to ensure improved planning, visualisation and monitoring of specific HSE measures. It was especially important to launch improvement work in the field of electrical safety.

As of this autumn, all new projects will be subject to an updated contract structure that makes Statnett's requirements in terms of HSE and Electrical Safety clearer. Our HSE and Electrical Safety requirements will be consolidated in a new appendix that is intended to be included as a new Appendix D in our standard contracts.

Until now, HSE and Electrical Safety requirements have been described in three different appendices: Appendix A, "Scope of Delivery", the existing Appendix D, "Administrative Provisions", and Appendix E, "Specifications".

"Collecting all the requirements in a single appendix will provide a good overview, and we will avoid problems with interpretation rules and precedence in the event of any conflict between documents, where e.g. Appendix A is ranked higher than Appendices D and E," explains Tor Erik Kjørstad, Head of Department for Substation Procurements at Statnett.

The principal reason for implementing the change is to collect and clarify HSE and Electrical safety requirements. This is important, both for Statnett's work on OHS, the external environment and for our general cooperation with the suppliers. Another reason is to ensure that these requirements are placed sufficiently high up in the contract structure.

"The new appendix will include project-specific requirements that apply to electrical safety. The intention here is to make it easier for contractors to estimate the costs of HSE work, and to lay the foundations for improved compliance with the Construction Client Regulations and electrical safety regulations," adds Tor Erik Kjørstad.

Late planning causes dangerous situations

Christian Opoft, HSE Consultant, has been one of the driving forces in the workgroup tasked with handling the electrical safety requirements in the new contract. One of

the key objectives of the work was to make electrical safety requirements easier to understand.

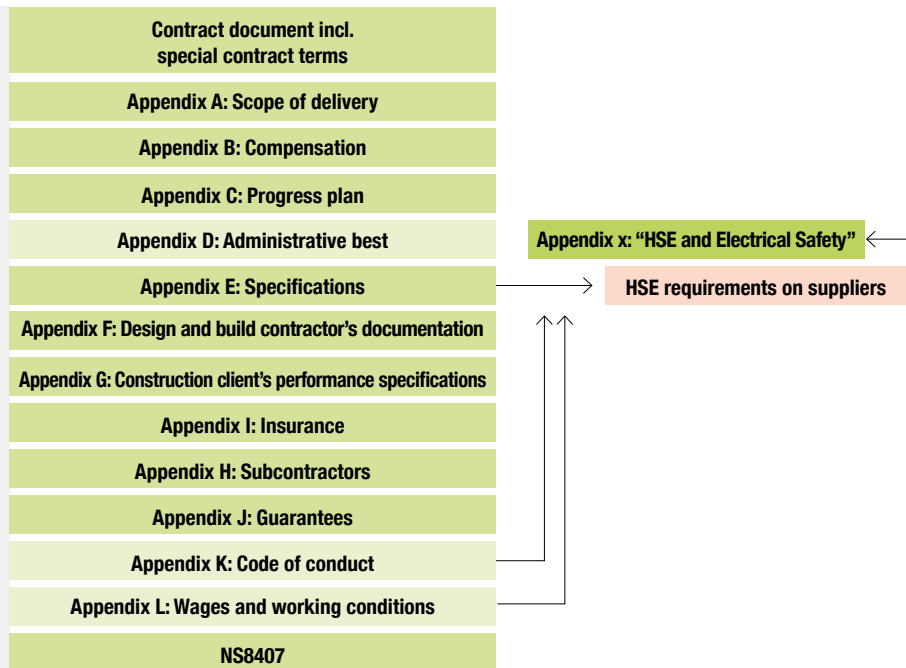
"Statnett has – and must continue to have – a comprehensive set of instructions and procedures. In developing an overview of requirements, we have attempted to highlight the main principles that suppliers must be familiar with," says Christian Opoft.

The overview of requirements also includes measures designed to highlight the guidelines for the High Voltage Safety Supervisor (LfS – Leder for Sikkerhet) and the Low Voltage Safety Supervisor (AfA – Ansvarlig for Arbeid). We have clearly defined the concepts of qualifying, approving and appointing the LfS and AfA, and compiled a comprehensive overview of the different LfS regimes suppliers need to relate to on Statnett's projects. The company's work with the construction client role and "the clear line" have also influenced the group's work, and is quite evident in the LfS overview, which states that the supplier's own guidelines are now to be used as the basis for LfS work during construction and demolition assignments. This last measure is not yet in place, however.

"After this has been implemented, we will no longer demand compliance with Statnett procedures when exercising the safety supervisor role during construction or demolition work as required by the relevant regulations. When this work does not directly affect plants, installations or facilities that are in operation, the electrical engineering contractors themselves are responsible for ensuring that their personnel are sufficiently skilled and receive the necessary training and instruction pursuant to the requirements laid down in the Safety Regulations Related to the Maintenance and Operation of Electrical Installations (FSE). The Construction Client Regulations state that our responsibility is limited to ensuring that the contractor's systematic HSE work is in accordance with the internal control regulation," explains Christian Opoft.

CONTRACT WITH APPENDICES

Contracts feature appendices in a given order, such that the provisions in Appendix A take precedence over those in Appendix B, and so on. The proposal is to adopt the new appendix on HSE and Electrical safety as a new Appendix D. This new appendix will contain the requirements on HSE and Electrical Safety that were previously stated in Appendices A and E and the current version of Appendix D, as well as the requirements previously stipulated in Appendices K and L.



Strengthened project design and greater focus on electrical safety

The comprehensive work on the electrical safety requirements in the HSE action plan has only reached the end of the beginning. The workgroup that both Tor Erik Kjørstad and Christian Opofté participated in, submitted several suggestions for improvements to the project design processes, which they will now be involved in following up.

An assessment will be prepared of the routines and templates for the electrical safety evaluations during the two first phases of Statnett's projects. The focus here is on establishing whether the current assessments are sufficiently thorough, and whether they ensure that electrical safety is accorded enough emphasis in the decisions made in the earliest phases of the project process.

The workgroup has prepared proposals for methods and templates designed to ensure a more detailed description of the electrical safety requirements in relation to the individual substation and/or power line project. These proposals will then be developed and implemented in the project design processes. The work will start with a review of our major projects, but similar improvement work will also be applied in our smaller projects in the long term.

"One important aspect in this work was to acknowledge that electrical safety evaluation and the planning of specific measures has to start as early as possible. Electrical safety must become a consideration allocated a much higher priority in the early phases of the projects. In addition, it is essential to raise awareness about what impact choices made during the early phases may have on electrical safety when the construction work finally starts," concludes Christian Opofté.



CHRISTIAN OPOFTE
HSE CONSULTANT / STATNETT



TOR ERIK KJØRSTAD
HEAD OF DEPARTMENT / STATNETT

LFS AND AFA:*

LFS = HIGH VOLTAGE SAFETY SUPERVISOR
A person appointed to have responsibility for electrical safety at the workplace.

The LfS is personally appointed for a limited period and is responsible for setting up, managing and winding up the safety measures at the workplace for work on or close to high-voltage electrical installations. Wearing an identifiable vest or armband, the LfS will personally inform the team of workers of their function, and provide the necessary instruction about the work to be done. The LfS must be on site throughout the work period.

AFA = LOW VOLTAGE SAFETY SUPERVISOR
A person appointed to have responsibility for electrical safety at the workplace.

An AfA must be appointed for all work on low-voltage installations or close to an uninsulated low-voltage installation. The AfA is personally appointed for a limited period, and is responsible for setting up, managing and winding up the safety measures at the workplace. The AfA must be on site throughout the work period.

* LfS and AfA are Norwegian abbreviations for these functions.

New qualification process differentiates HSE requirements by risk

HSE requirements must appear more clearly in qualification documents for construction contracts and material, and must be used actively in the supplier selection process. Where the HSE risk is high, the requirements will be correspondingly stringent.

Nina Kjeldsen, Head of Department for Statnett's Procurement Unit, had overall responsibility for improving the supplier qualification process. A key part of this work had to do with ensuring that relevant HSE requirements were adapted to the risk level of each procurement. This will allow Statnett to prioritise using resources on qualifying suppliers for high-risk procurements so as to ensure that they are able to comply with all requirements.

"Until now, we have only had one set of requirements to work with – regardless of the risk level – and that was simply not practical. From now on, requirements will be graded according to different risk levels: inconsequential, low, medium or high," explains Nina Kjeldsen.

Each of the four levels has been defined according to a new risk assessment model. The newly developed method will be implemented in Statnett's procurement process and serve as a guide for which requirements (HSE and others) and assessment methods apply to the qualification in question.

Numerous requests every year

Statnett uses Sellihca as its qualification scheme. Sellihca is a register of suppliers and a qualification system used by the Nordic energy sector to administrate supplier data and risk in the supplier chain. In addition, Statnett performs its own, more comprehensive, qualification process for procurements assessed as being medium- or high-risk.

In the first half of 2017 alone, the company worked on more than 115 contracts involving supplier qualification. Last year, we also had more than 600 call-offs from framework agreements. With so many requests to handle, it is essential to ensure that our suppliers meet our HSE qualification requirements as early in the process as possible, according to Nina Kjeldsen.

"The main point of the qualification process is to identify suppliers with the right skills for the task. Once they have qualified, we can contact them during future tender processes," she says. For high-risk procurements, the company will additionally run an assessment based on document inspections, carry out audits and check references from other customers.

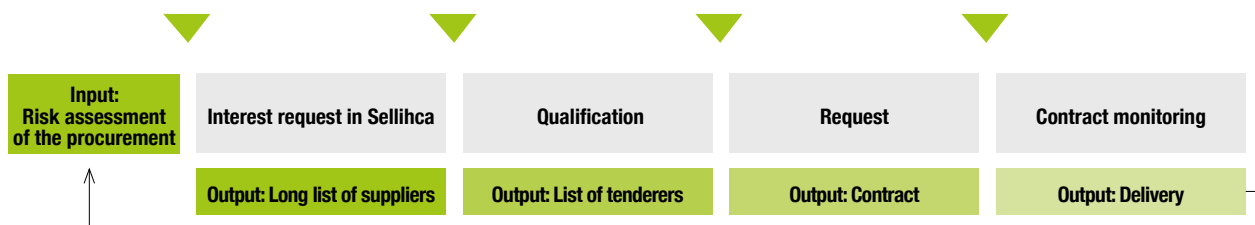
"We've also looked at several other ways to rationalise the qualification process, so that a single qualification can cover multiple procurements of the same type within a specified period of time," adds Nina Kjeldsen.

Full-scale implementation of the method, along with reviews and consultations, will be the next step in offering training in the new qualification method to relevant departments and others who will be affected. The workgroup tasked with handling supplier qualification has also prepared a separate memo summarising their work with the new method and the challenges that remain to be addressed.



Photo: Michaela Klouda

The procurement process



Experience: Scorecard, audits, inspections and measurement

“The main point of the qualification process is to identify suppliers with the right skills for the task. Once they have qualified, we can contact them during future tender processes.”

NINA KJELDSSEN
HEAD OF DEPARTMENT
STATNETT



Photo: Audun Roe Grimstad, Nucleus

Improved contract monitoring

Much of the groundwork for a successful project can be found in the contracts that Statnett, in its role as construction client, enters into with qualified contractors. When it comes to contract monitoring, we have been focusing on how to become even better at our contract work. One of the specific results has to do with how we actually follow up on the requirements we impose on our contractors.

“Statnett is asking contractors to describe in much more detail what they will be delivering to us – and how they plan to do it – in order to meet the requirements stipulated in the contract. For example, they have to explain how they envisage dealing with OHS and the external environment in the project, and what steps they will be taking to ensure compliance in this area. If we can get this in place prior to start-up, it will inevitably lead to a better understanding and a better working relationship between the contractor and our construction client team,” says Lars Erik Johansen, who headed up the work. He is Head of Department for Project Management for Power Lines, Cables and Substations at Statnett.

Everything in place before start-up

One key point is not to accept solutions that are “good enough” due to time pressure; rather, Statnett will allow sufficient time between entering into contract and construction start-up to ensure that the contractor has everything in place, and that the conditions stipulated in the contract have actually been fulfilled.

“We sometimes make mistakes between signing the contract and commencing the construction work because we’re trying to get too much done too quickly. This can come back to haunt us in the form of poor quality, inadequate HSE monitoring, and unnecessarily high costs for the project as a whole. By clearly stating our expectations and requirements prior to start-up in the field, we can ensure a clear, unambiguous line between ourselves as the construction client and our contractor from day one. In some cases, we have seen contractors start deviating from the contract even before construction work begins. This can set an unfortunate precedent for the subsequent work, and it’s something we’re working hard to avoid. We will be using audits more actively in future contract work,” promises Lars Erik Johansen.

Improved contract skills

Many of the initiatives he and the rest of the group are



Photo: Audun Roe Grimstad, Nucleus

“Our project staff must be understand and be familiar with the contents of the contract.”

LARS ERIK JOHANSEN / HEAD OF DEPARTMENT/ STATNETT

proposing have to do with ensuring good internal training and skills development when it comes to contracts. We have to keep in mind our role as construction client and focus on “the clear line” when monitoring our contracts. In addition, the measures outlined in other HSE initiatives – such as qualification, electrical safety and Life-saving Rules – will be more strongly integrated into our contract work.

“Our project staff must understand and be familiar with the contents of the contract. Accordingly, we are placing a lot of emphasis on courses and training programmes via our internal project academy. We are also working to update and/or improve a number of procedures, contract templates and processes. The ultimate aim of all this work is to ensure improved compliance with our requirements,” concludes Lars Erik Johansen.

No need for increased Statnett staffing on each project

Do the construction client teams currently working on Statnett's projects have the right number of people – and the right individuals? This is precisely the issue the HSE initiative "Resource development and management" has analysed.

"We initially thought that our study would show we had to get more people out to the construction sites. But our conclusion turned out to be that, generally speaking, Statnett's construction site teams are appropriately staffed, and there is no reason to propose an increase in staffing," says Randi Solberg, who was in charge of the HSE initiative. She is Senior Vice President for Project Owner Support at Statnett.

"On the contrary, introducing 'the clear line' means that our construction site teams can work in a slightly different way than before. Instead of having more people, it's a question of being more aware of our role as construction client, and of making sure we comply with our contractual obligations so that Statnett doesn't infringe on our contractors' areas of responsibility. We have to support our contractors' use of their own internal control systems and focus on ensuring that we actually receive the product we are paying for under the contract – with regard to quality, competence, deliveries, progress, cost and OHS. After all, the way in which contractors choose to deal with the residual risk should also be included in the contract," she continues.

Many members of our construction site teams have often been hired in specifically for the assignment, and with so many new projects in the pipeline, Statnett's need for construction managers will remain high.

"We are keen to draw on our internal pool and, in principle, we will always check to see whether we have resources in-house who match any vacant positions when we're putting together new teams," concludes Randi Solberg.



Photo: Gro Wallden



Photo: Trond Isaksen

"We are keen to draw on our internal pool and, in principle, we will always check to see whether we have resources in-house who match any vacant positions when we're putting together new teams."

RANDI SOLBERG / SVP / STATNETT



Photo: Johan Wildhagen

Better balance between requirements and capacity

Every year at Statnett, we balance our portfolio of projects to ensure that we are living up to our social responsibility to contribute to security of supply, climate solutions and value creation. HSE assessments have now become an even more important part of this work.

“Our portfolio plan defines the scope and level of activity in the work we need to do, and it helps us ensure that we dimension the company correctly, with sufficient and appropriate resources – both internally and among our suppliers. The HSE dimension is a key framework condition in terms of our portfolio plan – and it is about to become even more significant. A broad spectrum of projects – like we have at the moment – is not necessarily a problem in and of itself, but it can become one if the scope grows too large in relation to our capacity and capability,” explains SVP Grete Westerberg, who is responsible for project portfolio management at Statnett and headed up the work to balance our portfolio.

A feasible plan

It is not simply a question of counting project resources, but rather of assessing the capacity of the organisation as a whole. The plan therefore has to be feasible within the frameworks of HSE, time, cost and quality, and we also have to compare our resource requirements to our current capacity.

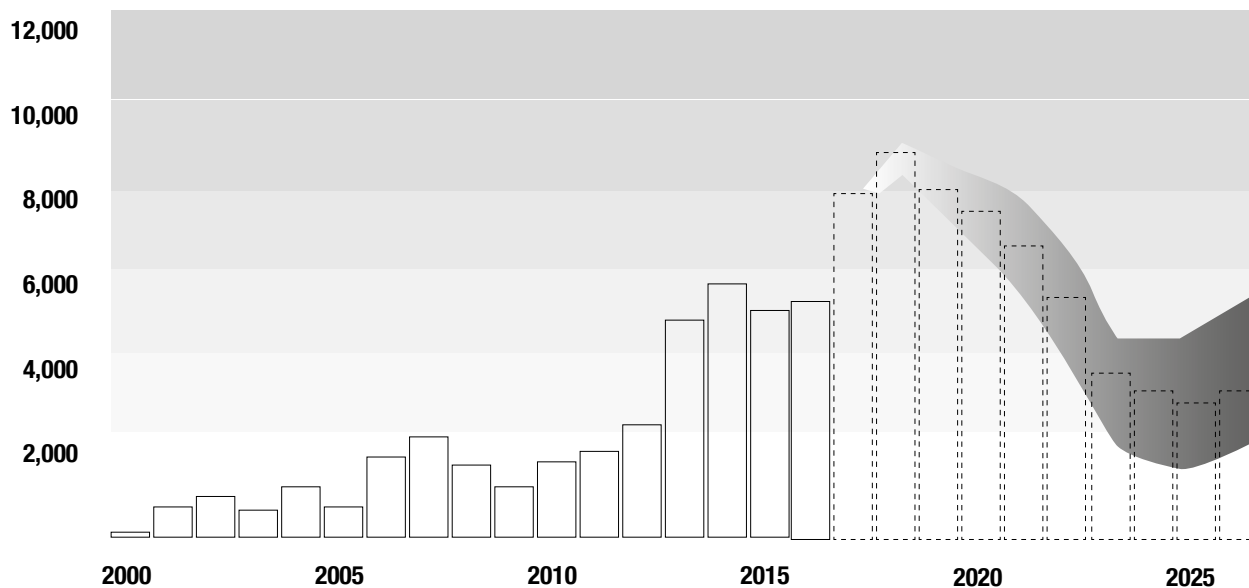
A seriously ambitious portfolio may result in us being unable to staff capable project teams, or it may make it hard to find enough suppliers and contractors who meet our HSE requirements.

“There are two generic strategies we can use to manage our portfolio to avoid this situation: we can increase our capacity and capability or we can adjust the portfolio itself. In addition, our project execution process must become more efficient. Statnett has decided to adapt our portfolio to our current capacity. The reason being that the peak we are experiencing at the moment, with many projects being planned or executed at the same time, will gradually decline. So it’s not a good strategy to double our current size – it’s much better to schedule some of our projects for the future,” says Grete Westerberg.

New considerations set limitations

This work to balance Statnett’s portfolio has resulted in a

**HISTORICAL INVESTMENT LEVELS AND FORECAST FOR NEW GRID INVESTMENTS AND MAJOR REINVESTMENTS
IN NOK MILLION (2017 PRICES)**



**INVESTMENT LEVEL OVER THE COMING FIVE YEARS: NOK 40–50 BILLION.
INVESTMENT DECISIONS HAVE ALREADY BEEN TAKEN – OR ARE BEING TAKEN – FOR AROUND 75 % OF THIS SUM.**

“There are two generic strategies we can use to manage our portfolio to avoid this situation: we can increase our capacity and capability or we can adjust the portfolio itself.”

GRETE WESTERBERG / SVP / STATNETT

project portfolio plan, which not only provides an up-to-date overview of the plans for all ongoing network facility projects, but also details the projects due to launch over the coming 12 months. The conclusions in this context are closely linked to the work done under the “Resource development and management” initiative, where clear guidelines have been drawn up to ensure well-composed and capable teams.

“We’ve taken this aspect more into consideration this year, and that naturally limits the number of projects we’ll be starting up. Some of the registered project needs will simply have to wait until other projects are concluded, freeing up capacity. We’ll also be adjusting the timetables of several other projects, and extending the phase between the decision to invest and construction start-up. This will give suppliers more time to put together good tenders, and will allow us more time for qualification, planning and evaluation. Finally, we’ve decided to postpone several projects where there is some uncertainty concerning actual need and/or profitability,” concludes Grete Westerberg.







THE WAY FORWARD:

It's time for everyone to pull together

All accidents can and must be avoided. We want to make sure everyone comes home safely from work. If we are to achieve this aim, everyone must make an effort.

We already have a solid HSE foundation thanks to a number of factors, including not only the work that has gone into creating the C4 HSE action plan, but also years of systematic HSE initiatives and the implementation of our safety project SIKKER (SAFE), where all parts of the organisation actively participate in strengthening our HSE culture. Now we need to focus on building on this foundation by adopting new methods, following new processes, making our Life-saving Rules second nature and – in particular – continuously developing our HSE culture. We have adopted a zero-tolerance attitude to accidents and injuries, and this carries obligations.

We have done some excellent HSE work

Our HSE action plan is the result of remarkable dedication, encompassing many hours of hard work in an interdisciplinary environment. We collected and catalogued skills, opinions and experiences – old and new – and the process was both eye-opening and reassuring. Among the most far-reaching results are a clearer understanding of our role as construction client and the introduction of the concept of “the clear line” between Statnett as the construction client and our contractors as employers. Many Statnett employees are members of construction client teams, or taken on the role of construction client in different contexts. Having everyone in the company share the same understanding of this role is a crucial aspect of construction site safety.

Our responsibility as a construction client also plays a key role in how we plan and design new projects. This means that everyone involved in project planning and design is responsible for ensuring that our new plants, installations and facilities are



“Two of the most far-reaching results are a clearer understanding of our role as construction client and the introduction of the concept of ‘the clear line’ between Statnett as the construction client and our contractors as employers.”

PER CHRISTIAN ØYAN
SENIOR VICE PRESIDENT, HSE
STATNETT



Photo: Jon Stokkan

constructed and operated in the safest possible manner. We are becoming better at managing HSE risk before commencing work on construction sites, which is important because it gives us the opportunity to improve HSE management and find better solutions – which often also end up reducing costs.

We need a helping hand from everyone at Statnett

When we initiated work on the C4 HSE action plan, we knew that we needed to involve the people who are responsible for each specific area on a daily basis. As a result, the 12 initiatives have generated a wide range of improvement proposals that will be followed up by the organisation in the usual manner. Many people have consequently been given the specific task of updating instructions, procedures and guidelines, and we will be providing the necessary training to ensure that updated work processes are put into practice. As a Statnett Manager, you are responsible for updating the processes and procedures you “own”. As an employee, you are responsible for familiarising yourself with the updates that are relevant to you and your work.

If we are to succeed, it is essential that you get involved – even if you were not involved in developing content for this improvement work. As a manager, you must set aside enough time to update instructions, processes and procedures, and to provide the necessary information and training. As an employee, you must study the new work methods and role descriptions, so that everyone is on the same wavelength throughout the Statnett organisation. And we hope that everyone who has made an active contribution to the process thus far will keep up their level of involvement and continue to be good “advocates” for all of the new changes.

We want to have the best suppliers and contractors

As a supplier or a contractor, you are naturally obliged to meet our HSE requirements if you want to work for us, and we must both be absolutely clear about our respective roles in the

projects. Your HSE culture must encourage your employees both to report unwanted incidents, and to abide by our Life-saving Rules. At the same time, we hope we can develop a good working relationship so that we can continue to learn from one another and work together to create safe workplaces.

We can help each other succeed in the energy sector

We want to learn from our colleagues in the energy sector, both nationally and internationally. At Statnett, we are committed to the success of a united energy sector. So let's learn from each other and boost our expertise. Working across company lines will benefit us all and help us make everyone's work day safer by being consistent with both our employees and our suppliers.

HSE means continuous learning and improvement

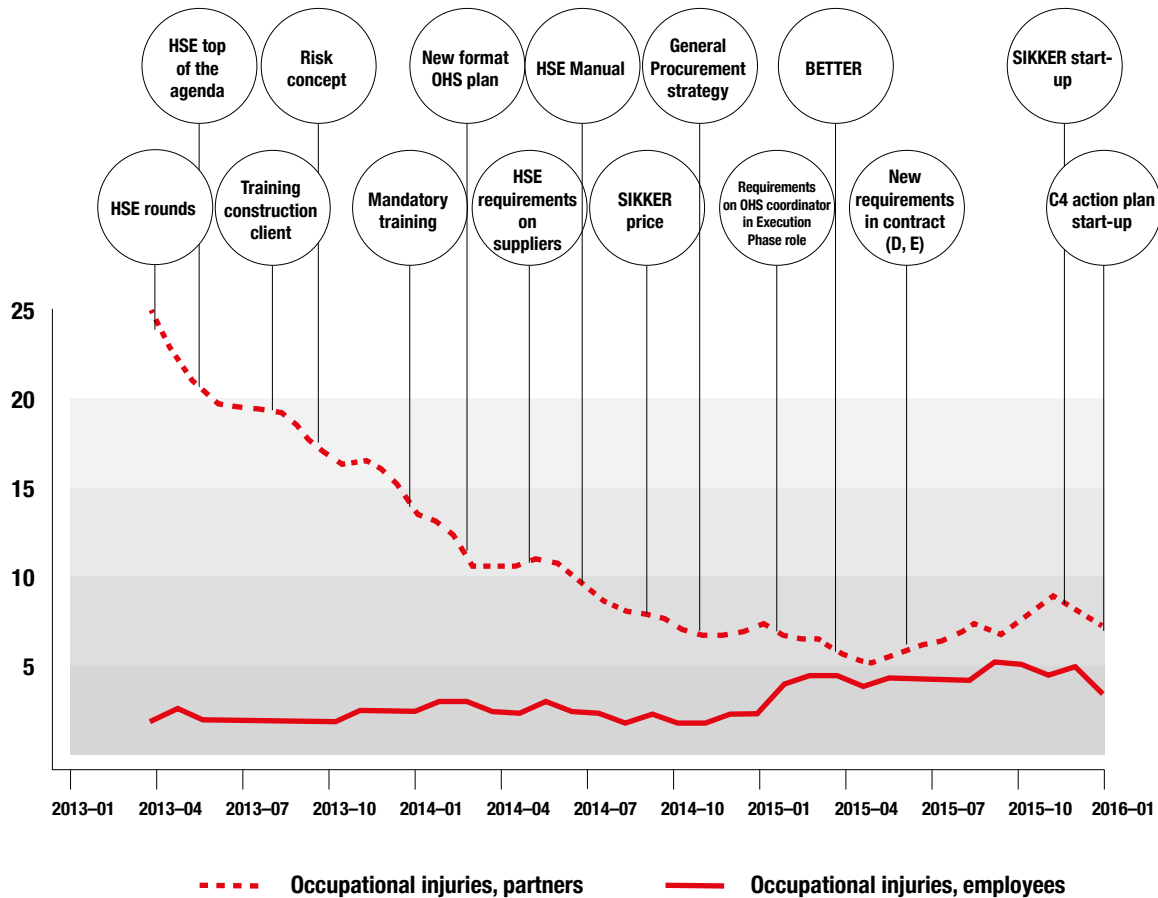
We have over the last years made great improvements and are achieving good HSE results. At the same time, we realize that HSE work is a continuous improvement process and that we have a potential to be even better. In other words, we must continue the work to make adjustments because we want everyone who work at or for Statnett to come home safely from work. To ensure this, we need everyone to keep on suggesting improvements and reporting unwanted incidents and near-misses. This is how we can learn from our incidents and develop our best practices.

So before you put down this magazine, I would encourage you to read through our Life-saving Rules one more time. It's about caring and showing consideration for your colleagues – and yourself. Have a great day and have a safe day at work.

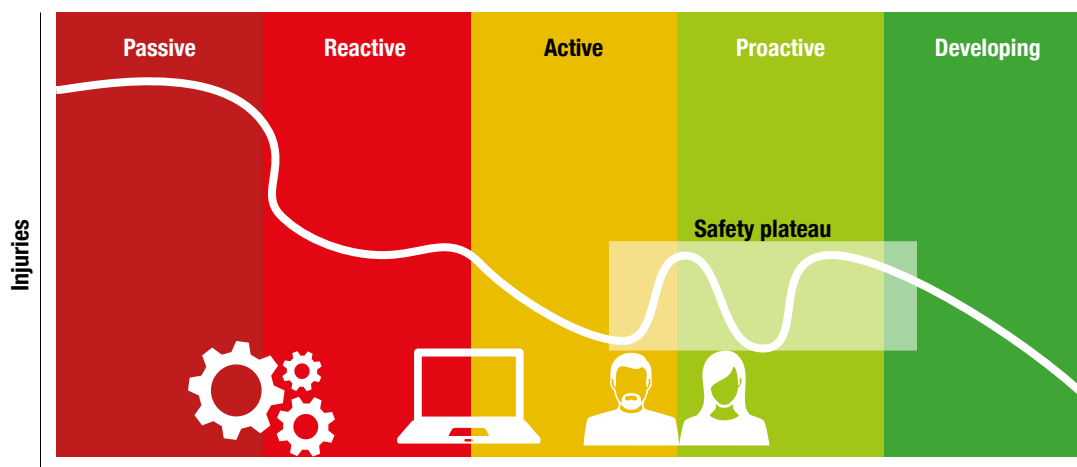
Per Christian Øyan
Senior Vice President, HSE

HSE measures and lost-time injury (LTI) trends

HSE requirements have been high on the Statnett agenda for many years, and the graph below demonstrates that this has produced results in the form of a progressive decline in injuries in connection with our projects. Now let's lower those numbers even more.



Towards a developing HSE culture



Our ambition is to establish a shared, proactive and developing HSE culture in the company. Simply put, this means that we need to be more proactive on the job and better at learning from our mistakes – and we must implement measures before accidents occur.



Photo: Johan Wildhagen

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