



July 2022



Welcome

### **Foreword**

Safety Needs Our Energy! This is not a hollow phrase. Safety is not a one off exercise, we need to keep the energy high and continue to Invite, Speak up and taking Care of each other.

On the 9th of May we faced another black chapter in our Safety book. At a German worksite the promising life of our young colleague, only 24 years old, ended (see page 7). The energy transition is not worth to have any fatality!

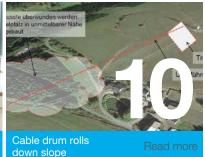
We continue to invest in safe operations and we need you as our partners now more than ever. The task is ours. We are working on joint improvement projects with our EU 303 partners. Via partnerships we want to steer on safety (see page 3 and 4). To connect with you, our partners we are organizing a TenneT (Offshore) Safety Top on the 8th of July, putting partnerships at the center. In our next newsletter we will share more information about this event.



Oscar van Aagten









at Etten-Leur



Safety needs our energy

Newsletter contractors TenneT

July 2022





Latest news

# Latest news

### Safety Needs Our Energy Contractor Safety Award voor Taihan



In the Offshore grid Net op zee, Hollandse Kust (noord) en (west Alpha) project, TenneT, together with its main and subcontractors, is connecting three wind farms to the onshore high voltage grid. Safeguarding the health and safety of everyone working on this project is a prerequisite for this project.

Working safely and in good health is not something that just happens by itself. As client, TenneT devotes a great deal of attention to things that can be done better; furthermore things that go well often are not emphasised enough or not at all. In this project, the South Korean cable supplier Taihan is the main contractor responsible for making the cable connections. The team making these cable connections is highly specialised and has travelled from South Korea to the Netherlands. Though they are well versed in their profession, not all have mastered the English language.

### Basic Safety training course

To be allowed to work at TenneT's work sites

we ask all employees to successfully complete the basic Safety, Health and Environment Checklist Contractors (SCC) training course. The examinations are in English, which was an obstacle for the team. Yet, all team members, with a great deal of effort, earned the certificate.

The TenneT project team expressed its appreciation by presenting the 'Safety Needs Our Energy' Contractor Safety Award to the Taihan team for the first time. During a joint Korean lunch, TenneT Sub-Project Lead Silco Poleij presented the Award to the Taihan Team of Jihoon Han, Head of the Taihan Europe Department.

# Life-Saving Rules campaign

Life-Saving Rules have proven their value in reducing fatal accidents. In September TenneT will reintroduce the LSR and Fair Approach. The existing set of Life-Saving Rules has been evaluated in the context of

the serious incidents that have taken place in recent years within TenneT. New Life-Saving Rules are included based on emerging risks in our organization and we have made a first step towards harmonization, in this case with the oil and gas producers (IOGP).

### Fair Approach

We will combine the reintroduction of the Life-Saving Rules with the Fair Approach, a method to identify and classify the underlying causes why people break Life-Saving Rules and the context in which they occur, in order to come to effective and sustainable improvement actions. The Fair Approach is based on the principle that employees come to work to do good job, not with the intention of breaking rules. This means that improvement measures will not only be aimed at that "last man in the field" but through the entire organization.

### E-learning

The LSR and FA are not new safety rules. The rules have been in place for many years and everyone (employees, contractors and visitors) is responsible for knowing and following them. The campaign will start in September and will consist of various communication materials as well as a new e-learning, that will also be available for contractors.



Safety needs our energy

Newsletter contractors TenneT

July 2022







Latest news



### **Energy Safety Festival** not on 6th but 4th October

In the previous newsletter we announced that the 3rd Energy Safety Festival would take place on Thursday 6th October. It has been decided to change the date of the event to Tuesday 4th October. Mark that day in your calendar and **register here** for this inspiring festival.

### Cooperation with the EU303 partners

In 2020, TenneT started the cooperation with their partners from the EU-303 Stations framework agreement, Heijmans Infra, Omexom, Strukton, Croon Wolter & Dros Mobilis (SC&M), Volker Energy Solutions and SPIE. Together they developed a Performance Roadmap Safety. TenneT and the abovementioned partners developed and decided to work on two joint improvement projects within EU-303 Framework contract:

### Set up onboarding structure

To jointly establish a structure in the form of a standardised Safety PSU (Project Start Up), Safety PFU (Project Follow-Up) and a Start/ Work meeting whereby a Safety Wall can be used at all projects. The safety wall, for example, includes the high-risk areas at the relevant high voltage substation, the Life-Saving Rules and information about the project team, such as the names and mobile numbers of company emergency response officers, workers, project leader/project manager and safety expert(s).

The objective of a standardised Safety PSU, Safety PFU and Start/Work meeting is to make safety a central theme in the preparation and implementation phase of projects. A key precondition is the provision of the right and relevant information to bring employees into contact with each other on a timely basis and linking safety to culture, attitude and behaviour.

### Roles and responsibilities on H&S coordination

To embed H&S coordination-related roles and responsibilities into the preparation and implementation phases clearly and on the basis of equality, including recordings of working arrangements for all EU-303 projects. The objective is to create clarity in terms of the organisation structure (roles and



Safety wall Louwsmeer

functions) relating to tasks, authorities and responsibilities concerning H&S coordination.

### Goal setting

The parties jointly have started to prepare pilots that will be carried out at projects in the autumn of this year. We use the pilots to acquire experience together with the project teams and share this experience to enable us to arrive at a definitive structure on the basis of feedback. Following consent by all parties, implementation will occur at all EU-303 projects in 2023.





July 2022



Latest news

Here is what TenneT and its partners say about the partnership:

### Nicole de Wit, Bert Visscher en Oscar van Aagten, TenneT

"Joining forces with our partners gives us a great deal of energy.

We consolidate all of our knowledge and experience and jointly discuss potential improvement initiatives for our projects. We all feel that there is no competition in the area of safety. By wanting to work together, to listen, to understand and to learn from each other we elevate safety to a higher level.

We work together on improvement initiatives with having a clear approach for all our projects as the final objective."

### John Riggeling, Strukton

"We are jointly aiming for consistency and clarity in the area of safety. I consider the fact that we are able to discuss the safety-related topics we are confronted with at our projects with partners in all openness, very positive. The ability to safely perform work at our complex projects is of the utmost importance!"

### Eelke den Otter, SC&M (Co-operation between Croon Wolter & Dros and Mobilis)

"As partners/chain partners we are working in the same high-risk working environment. That we are able to transparently and consistently discuss safety with our client and competing colleagues and come up with suitable solutions for a safer working environment is very positive."

### Iris Stuijfbergen, Erica Damhuis, **SPIE**

"It is very inspiring to be able to work on these project objectives by combining forces and knowledge. We are now at the forefront in terms of our ability to make the difference and are looking forward to the pilot phase and implementing the approach as part of the execution phase. We are doing this to even better anchor the focus on safety in our projects."

### Wouter de Zeeuw, Omexom

"The fact that as partners we aim for consistency and clarity and organise safety the same way at all projects is a positive development."

### Geert Doorn, Heijmans

"It is awesome that we want to learn from each other and share knowledge and experience together as partners and client in all openness. That we jointly apply lessons learned from incidents and best practices and aim for clarity in the area of safety. All this for the purpose of increasingly making the work safer."

### Hendrik de Boer, Volker Energy **Solutions**

"The fact that we, as competing colleagues, aim to elevate safety to a higher level together with our client is a very positive development. We are working together with the goal of adopting a consistent and clear way of working safely at projects."



Performance Roadmap Team Safety





July 2022





Welcome

Latest news

Safety Culture Ladder

Incident Investigation

In tocus

Links

## Safety day Borwin 5

On March 17 and April 28, the offshore project Borwin 5 has organised safety days for the contractors of the land cable installation. The drawing below made on one of the

two days gives a good impression of what was discussed. Gunnar Brodersen, Advisor Sustainable Growth at Grid Field Operations Germany and John van Schie, Lead at GFO-N-SHE facilitated the programme and led some exercises with participants concerning SHE awareness of both employees on the workfloor and management.

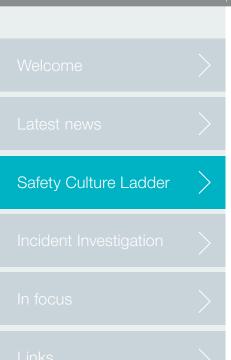






July 2022





# **NCI Online Seminar** Safety Culture Ladder in Germany

On Tuesday afternoon 4th October 2022 NCI Certification (Netherlands) and NCI Zertifizierung (Germany) together with Ecco Unternehmensberatung GmbH will organize an online seminar.

The purpose of the seminar is provide insight into the Safety Culture Ladder and share mentation and the assessment

Participation in the seminar is free of charge. Because of the interactive nature of the seminar, the number of participants is limited to 25. Click **here** to register.

# **Statements**

Is your company certified and would you like to share your experience? We would be happy to hear from you about thisthrough means of a real-life example. Let's inspire each other and so expand our perception of the world we work in! Send your text to safety@tennet.eu.

## **Zhonatian**

Zhongtian Technology Submarine Cable Co., Ltd. successfully passed the SCL level 3 certification on December 29, 2021, becoming the first company in China to obtain the SCL certification. Moving on, we received the SCL certificate from Lloyd's Register of Shipping on March 9, 2022.

Zhongtian Submarine Cable has since implemented the SCL standard, spearheaded by the special task force, General Manager, Mr. Hu Ming, in January 2021. Through SCL training, gap analysis, and management improvement, the company's safety management and culture have



significantly improved. As a result, the health and safety of the employees have been greatly enhanced.

### Stahlbau Oberlausitz GmbH

A key focus of the Safety Culture Ladder involves dealing with safety awareness and the resulting behaviour of individual employees.

Conducting an audit procedure enabled us to actively look at employee safety awareness and interaction in response to undesirable conduct from a different perspective. The relaxed and pleasant atmosphere during the interviews in our production halls allowed us to observe exemplary ways of adequately addressing both negative and positive employee behaviour in a sustainable manner. The process certainly taught us the importance of providing constructive criticism and pointing out desirable actions without becoming negative. The SCL application was therefore further refined, while at the same



time demonstrating how it is being impressively implemented.

Stahlbau Oberlausitz GmbH Techno-Engineering D GmbH





July 2022





Latest news

Safety Culture Ladder

Incident Investigation

n focus

Links

# Fatal accident in the Wernberg-Köblitz steel warehouse

On 9 May 2022, two employees of the Line Construction Service Group (GFO-G-XT-SO2) were moving pylon components for the East Bavarian Ring project in the Wernberg-Köblitz steel warehouse. A serous incident occurred at around 2:45 p.m in which one employee was fatally injured and his co-worker suffered a less serious injury.

Our deepest sympathy goes out to the victim's family, friends and colleagues.

# Circumstances of the accident known thus far

The two employees had been tasked with relocating various steel parts in the steel store from the offloading area to their final position. A wheel loader (Volvo L90E) with a fork attached was on hand for transporting the steel parts and depositing them on stacks. During the step of depositing a bundle with six (6) crossbeam rails with a total weight of

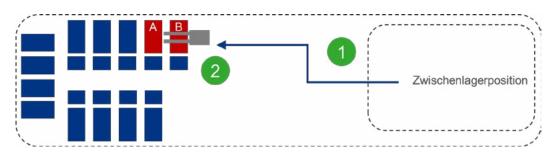
approx. 430 kg and length 5 meter, from the interim storage position (1) to the final storage position (2) on Stack A (height approx. 1.8 m), the bundle was lifted over Stack B, which was stored in front (see sketch). As Stack B was positioned in front, the wheel loader was unable to position the load directly above Stack A. A decision was taken in response to the situation to push the bundle by hand from the forks onto Stack A.

The circumstances under which the employee ended up under the bundle of steel

and was fatally injured have yet to be cleared up during the course of the accident investigation. The position of the fatally injured employee was between Stacks A and B.

### **Recommended measures**

- Before starting work, danger zones must be identified and clearly marked;
- In the event of changes to the planned workflow or with unclear and/or potentially unsafe situations: STOP the work, discuss and assess the situation (LMRA);
- Consult with your supervisor where the work no longer corresponds to the workflows evaluated and protective measures stipulated in the risk assessment;
- Lift and deposit construction components only when the load to be deposited is directly above the intended location;
- Do not push or lift loads from forklifts unless the forks are close to the ground;







July 2022 **Newsletter contractors TenneT**  Review of warehousing concepts and risk We are continuing to work to understand the The abovementioned measures are based on assessments for storing construction the initial findings from the circumstances of immediate cause in detail - in particular to components and removing them from the accident known thus far and largely uncover the basic causes – and to come up concern general rules and behaviour patterns with measures that will assist our entire storage; • Instruct employees in the measures; to be observed for safe working in similar or organisation in improving safety at work. • Until the abovementioned measures are other situations. The measures are not implemented, work of this nature in steel intended to pre-empt the results of the stores of this description will not be carried accident analysis. out for the present by TenneT personnel. This does not apply to general loading work in other stores and areas. Incident Investigation





July 2022





Incident Investigation

# Broken calf bone while hoisting new insulator

On Saturday, 12 February a technician broke his calf bone while hoisting a new insulator into a power pylon at the Diemen -Lelystad Black line. To enable the chains to be lifted up, a hoisting belt was used to suspend a pulley from a cross beam of the power pylon. The tackle rope was pulled through the pulley. The hoisting belt shot loose during the hoisting operation, causing the pulley to come undone as well. The forces this exerted in turn broke the tackle rope.

The bucket of the hydraulic platform was located near the pulley's suspension point and contained two of the contractor's technicians and the hydraulic platform's operator. As the tackle rope broke loose, it hit the calf bone of one of the technicians, causing a break.



### Why did this happen?

- The pulley was not properly attached to the cross beam:
- The hydraulic platform's bucket was improperly positioned;
- No LMRA was performed prior to doing the work:
- The 'danger zone' was not clearly identified. When something goes wrong, it releases energy.

### What are the lessons learned?

- Assemble the parts the right way and have this checked:
- Position the hydraulic platform's bucket outside the danger zone;
- Always carry out an LMRA before doing any work.

### What measures were implemented after the incident?

- Emergency services brought the victim to the hospital:
- An investigation into the incident was initiated.

#### Reflections for discussion

- What is the danger zone for the work you are planning to carry out next? Where would energy be released if something were to go wrong and where would you then be positioned?
- If you were to use a pulley, what is the right way to attach it? Who has the competencies needed to check this?
- What risks did you identify during your last LMRA?



Safety needs our energy

**Newsletter contractors TenneT** 

July 2022







Latest news

Safety Culture Ladder

Incident Investigation

In focus

Links

# Cable drum rolls down slope

The drum site for the transmission line from anchor pylon 82 to anchor pylon 71 on the 380 kV line between the German border and Redwitz was located in the M82-83 line section, using the existing cable as the pull cable. Due to terrain conditions, the drum site was on a slope just in front of Pylon 83. The cable drums with the new transmission line were placed at the drum site on road construction slabs and were secured against rolling away by squared timbers.

An overhead line service winch was to be used to pull the new transmission line from the drum site to Pylon 82, where it was to be coupled to the existing transmission line. This operation required an intermediate step. The end of the cable from the overhead service winch at Pylon 82 was connected to a transfer line, which had been previously laid out from Pylon 82 to the drum site.

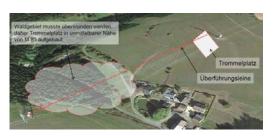
A deflection pulley was attached to a new, full cable drum at the drum site. The transfer line was threaded through this pulley and attached to a motor vehicle.

The vehicle started to move, causing the drum to twist and roll down the slope until it was stopped by trees. There was resulting property damage.

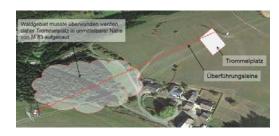
#### Causes

List not only includes the causes identified in the incident investigation, but also findings from further and additional investigations at TenneT.

- Selection of unsuitable anchor/deflection points that cannot statically/dynamically bear the loads
- Heavy loads (e.g. steel drums, ballast weights) are considered to have a high holding effect without taking account of their geometry or existing coefficients of friction (e.g. steel on steel).
- Aids used to prevent objects from rolling away are not always selected with the necessary care (e.g. rotten squared timbers).
- The risk assessment (or documents based on it) often does not describe anchor and deviation points in the detail necessary for practice.
- Work preparation and work instructions often do not cover all the required work equipment or its condition with regard to drum and machine positioning.



1. Deflection pulley is attached to the cable drum, transfer line attached to vehicle..



2. Vehicle moves, pulls transfer line, which rotated the drum.



3. Drum rolls down the slope, direction pylon 71 and is stopped by trees in wooded area.





July 2022 **Newsletter contractors TenneT Proposed measures** • Work preparation must also include the TenneT needs to take an overarching view (List includes findings from other provision of suitable tools and verification of the requirements and burdens on the incident investigations that are useful organisation and stakeholders resulting of their condition in the context of this incident.) • The work procedure should be scrutinised from the energy transition Knowledge and information about "anchor by all parties involved: and deviation points" are essential to • Is all the necessary information available? working safely. Only when these details are Information outside the work task itself is known can they be assessed (risk assesssometimes useful (e.g. next work steps ment) and communicated (operating planned for subsequent days). • Was the provided information understood? instructions, work instructions, work sequence description, training, instruction, • Any lack of clarity must give rise to further construction start-up meeting, etc.) consultation (e.g. with the customer) Incident Investigation 





July 2022





Latest news

Safety Culture Ladder

Incident Investigation

n tocus

Link

# Working safely around lifting operations

Based on our incident statistics we see that lifting operations are one of the most dangerous activities within our operations. Therefore, in this article we would like to give extra attention to the topic and provide the minimal standards that should be applied when preparing and executing the lifting operations. With the aim to familiarise our employees and contractors with the hazards and safeguards in order to be able to minimize risks to an As Low As Reasonable possible (ALARP) level.



Hazards relating to the usage of this type of equipment include e.g.:

- moving cranes or part of the cranes
- dropped load or objects
- personal transfer via basket
- subsoil giving way resulting in the crane overturning
- electric arc due to contact or vicinity to life parts or induction tension.

A decisive factor for safe working is good work preparation. All lifting activities must be

carried out in accordance with legal requirements and by taking the following points into account:

- determination of the lifting method and planned work procedure
- carrying out a risk assessment and defining protective measures
- safety instruction of the employees involved
- written work permit, if necessary
- LMRA (Last Minute Risk Analysis) directly before the start of work.

Depending on the complexity of the lifting work, the operating procedure can be described in a document covering the most important points (e.g. an operating instruction) or in a lifting plan.

A lifting plan has to be drawn up basically for at least the following cases:

- where the load contains a personnel lifting device
- if there are more cranes that can come within each other's reach
- when a load is lifted with more than one crane

- loads with a large wind surface
- loads with an eccentric center of gravity
- work under suspended load only under exceptional cases (e.g. stocking of a high voltage steel pylon)
- all lifting operations where the torque (= product of the load to be lifted (in tonnes) x horizontal outreach (in metres)) exceeds the value of 20.

For lifting operations in electrical installations, a lifting plan is always required which must contain the following content:

- brief description of the task to be done
- listing of electrical hazards
- selection of a suitable location for the lifting equipment.

The lifting plan must contain at least

- general conditions (e.g. weather, light, subsoil, need/ place of a rigger, visibility/-communication of rigger and lifting operator, regular checking of the crane, qualifications)
- information of installation site (e.g. crane outreach, place of the lifted loads)
- drawing of the installation site (e.g.





July 2022





Welcome

\_atest news

Safety Culture Ladder

Incident Investigation

n focus

LINKS

- position of the crane, working area of the crane)
- load (e.g. weight, dimensions, centre of gravity, transport route of the load)
- crane (e.g. type and size)
- approved and suitable lifting gear and anchor points
- additional safeguards/ safety surcharges for the lifting equipment working under a suspended load
- usage of tag lines or tag bars (never use hands)
- barriers to protect for access of nonauthorized person or/and signs for dangerous zones (dropped objects).





Safety needs our energy

Newsletter contractors TenneT

July 2022





Welcome

Latest news

Safety Culture Ladder

Incident Investigation

In focus

Links

# High Voltage Emergency Process - Controlling Incidents

The actions undertaken by emergency services near high voltage installations entails specific risks for the emergency services, as well as the continuity of the power supply. To make fire fighters and other emergency service providers aware of these risks, TenneT, in cooperation with the Dutch Public Safety Institute (NIPV) has developed a specific learning guideline and training materials.

In addition, it is of crucial importance to train in actual practice on the basis of the acquired knowledge. TenneT is actively pursuing this with her contractors and emergency services. For example, in Etten-Leur, where, at the initiative of one of the contractors, SPIE, we conducted a training session.

# Fire brigade exercises at Etten-Leur high voltage substation

On Monday 2 and 9 May, fire response exercises were held for the first time at the Etten-Leur high voltage substation. The exercises were initiated by SPIE's HSEQ Officer Toine Koks. In consultation with TenneT, Toine contacted the Security Region Central and West Brabant, which responded enthusiastically because they had never before conducted such exercises at a high voltage substation. During the visit by the Officer on Duty of the Security Region to Etten-Leur, the exercises were coordinated with the floor plan and the available spaces. Etten-Leur currently is in a greenfield state, which means it is not in operation, and that

made it possible to safely conduct exercises in buildings and in the switchyard.

### TenneT protocol - blue vest

During emergencies at a high voltage installation, the installation may only be entered by a (delegated) person responsible for the installation (the "IV-er" as it is called in Dutch) or by a TenneT person responsible for the work (the "WV-er" in Dutch). The first person present at a location, who at a minimum must have been designated by TenneT as a person responsible for the work



("WV-er"), wears a blue vest with the words 'Incident Coordinator' inscribed on the back. In the past, the words on the back of the blue vest were 'High Voltage'. These vests are currently being replaced by the new vests. By wearing this vest, this person is recognisable as the point of contact/expert for the emergency services and he/she must show TenneT's appointment and/or entry in his/her safety passport.

Depending on the emergency and/or incident this person transfers the coordination to the 'Operational Installation Manager ("OIV-er" as it is called in Dutch), and when the 'Person Responsible for the Installation ("IV-er") arrives onsite to this "IV-er". Performing fire extinguishing or rescue activities within or in the immediate vicinity of the high voltage installation is only permitted when the "IV-er (blue vest) has declared the installation/ location where the emergency control activities are to take place, safe. TenneT is aware that this procedure may cause a loss of time and extra damage.





July 2022





Latest news

Safety Culture Ladder

Incident Investigation

In focus

Links



### Progress of the exercise

The fire brigade received the alert 'smoke development at Etten-Leur', turned out and on arrival at Etten-Leur encountered a locked gate. Entry without TenneT's permission is prohibited, because the installation must first be put into safe mode. TenneT's "WV-er" (blue vest) showed up onsite and put the installation in safe mode. After that he reviewed Etten-Leur's floor plan and the location of potential victims with the Officer on Duty. During the exercise, walkie-talkies were used for communication between the Officer on Duty, TenneT HSE and SPIE HSE. TenneT and SPIE staff also took part in the exercise.

The fire brigade searches a building with lots of developing smoke as follows: they wear breathing masks, enter the room, close the doors and use a circling method: the circle is reduced by walking in increasingly smaller circles from the outside to the centre. During

this exploration, they found a person in a state of panic ('played' by a fireman), who said that there were two other persons present as well. After an intensive search the firemen found these two persons and brought them to safety.

#### **Evaluation**

After receiving an 'all safe' signal, the Officer on Duty, TenneT HSE and SPIE HSE evaluated the exercise. This was followed by a plenary evaluation session with all involved parties: experiences and areas for improvement were shared, and questions were asked and answered. After that, two groups were created; one group was provided with a brief excursion of the Central Service Building ("CDG" as it is called in Dutch) and the other group went to the switchyard. The dangers present and how to deal with these dangers were discussed with both groups. For example, the need for earthing vehicles by equipping them with an earthing drag chain was brought up, as well as the importance of using the data system for security regions (DOIV). Clients and building owners are required to upload drawings and floor plans of buildings/sites, supplemented with information, such as the presence of gas or oil-filled components into this system. During emergencies, emergency services have access to this information at the push of a button.

Toine: "These were instructive exercises for the emergency services, TenneT and SPIE. The emergency services and TenneT appreciate that SPIE initiated this exercise, which yielded valuable information for emergencies in and around high voltage substations. I would like to take the opportunity here to thank everyone involved in these exercises: together we are making the region safer!"

### **Available information sources**

#### **Knowledge documents**

TenneT has prepared two important knowledge documents in cooperation with the Dutch Public Safety Institute (NIPV):

- Acting safely near electricity points for attention reference card
- 2. Acting safely near electricity handout.

#### Webinar

The Dutch Fire Brigade and NIPV have developed a webinar with the theme Energy transition for incident response personnel – Acting safely in incidents involving electricity. The webinar takes 20 minutes and can also be viewed on a mobile phone.

#### **Toolbox**

In addition, a toolbox is available. Should you be interested in this toolbox, send us an email at safety@tennet.eu.





July 2022





Welcome

Latest news

Safety Culture Ladder

ncident Investigation

n focus

Links



### **Life-Saving Rules**

www.tennet.eu/company/safety-at-tennet/life-saving-rules

# **Safety Culture Ladder**

https://www.tennet.eu/company/safety-at-tennet/safety-culture-ladder/

# Safety at TenneT

www.tennet.eu/company/safety-at-tennet/safety-at-tennet

# **Contractor Management**

www.tennet.eu/company/safety-at-tennet/contractor-management/

