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Foreword

The weekend of 2 December was a historic week for Formula 1 lovers in the Netherlands. ‘Our’ Max Verstappen for the first time became world champion in a blood-curdling last race in Abu Dhabi. Perseverance, a strong spirit and mental resilience. These are some of Max’ characteristics that we also need to be able to work safely. Just like excellent material and working together in a top-class team. Professionals with high standards and the drive to want to work for each other, watch out for each other and to be there for each other. These are principles that we also aim for in our sector and in our organisation: ‘Safety needs our energy’.

The fact that safety needs our continuous attention unfortunately once again is evident from the tragic incident that took place at our sub-

station in Borken, Hessen, Germany on Thursday 2 December. During this incident two contractor employees were injured, one of whom has died. It is with great dismay that we convey our sympathy to the victims’ family and friends.

In conclusion, I would like to wish everyone a very happy holiday and let us all make every possible effort together to make 2022 not only safe, but even safer!



Oscar van Aagten



Jointly investing in the EU-303 programme [Read more](#)



Safety Culture Ladder update [Read more](#)



Fatal electrical accident at Borken substation [Read more](#)



An interview with Ingo Seuren and Douwe Zijlstra [Read more](#)

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Energy Safety Festival: a successful trip to the State of Safety

The second Energy Safety Festival took place on Thursday 7 October. 140 professionals from the energy sector met in Bunnik, the Netherlands, to engage in a ‘real discussion’ about safety.

In a panel discussion, four executive directors from the sector, including Maarten Abbenhuis, COO at TenneT, highlighted their ideas about safely working and/or working together. “It is a bumpy road, but that does not prevent us from putting a great deal of energy into safety. For example, by training people from the top to the bottom of the organisation and through means of exemplary behaviour.”



TenneT also organised a workshop about various game modes that can be used to engage people in a discussion about safety within an organisation. The Act safe, stay safe! toolkit was a key theme in this workshop. The workshop was well attended. The festival was well organised with an original structure and a varied programme.

Click [here](#) for a video impression and photos of the Energy Safety Festival.



Jointly investing in the EU-303 programme

In January of this year we began working on the rollout of the EU-303 programme. This programme involves the construction and maintenance of all onshore substations in the Netherlands for the maximum period of eleven years. Under this programme TenneT will initially enter into a partnership with six partners. In the near future this group will be expanded by another three partners.

Due to this programme’s strategic character, developing genuine partnerships is of crucial importance. This is why, together with all partners, we are investing a great deal in developing and maintaining excellent relationships. Based on transparency, mutual respect and forms of conduct founded on equality. **Dealing with each other on an equal basis makes it possible to achieve a proactive safety culture in our projects.**

This year we primarily invested in getting to know each other and developing excellent relationships in order to identify our collective needs for improvement. One of these initiatives is to work on ‘shared leadership’ principles. It is crucial for us to understand and/or want to understand each other, that we dare to hold each to account and that we work together in healthy ways.

Furthermore, this newsletter contains a report of one of the [safety leadership workshops](#), based on a relationship of equality. The column [An Interview with...](#) contains a nice example of equal partnership at a TenneT and Heijmans EU-303 project.

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A step towards an 'EU-303 culture'

On 5 November, TenneT and the EU-303 partners met to discuss safety. The central theme of this meeting was equality. The ultimate goal of having a partnership based on equality between TenneT and its partners is to create a proactive safety culture within the different EU-303 projects.

Equality

This session primarily focused on jointly giving the equality theme greater significance. What do we mean by it, what makes or breaks a relationship of equality and how do we hold onto this in situations where things get 'tense'? In addition, the objective was to work together to identify how to define specific collective objectives together for 2022.



Exchanging experiences and ideas between TenneT and its partners was key to exploring the 'equality' theme in further depth. On the basis of the principle. 'We work safely or we do not work at all', Iris Stuijffbergen of SPIE spoke about the three key points of their programme: clarity, ownership and holding each other to account.

EU-303 culture

Iris: "When a colleague holds you to account, this really is a compliment because that person is watching out for your safety." She also emphasised the importance of stop times during work to ensure you stay alert. All of the stories were exchanged in an open dialogue. The term 'EU-303 culture' came up during the discussion. According to participants this is a culture in which every employee feels secure enough to be able to proactively act within his/her work environment on the basis of a number of specific key behavioural characteristics, such as 'mutual respect', 'trust', 'transparency', 'learning to consult rather than punishing', as well as having the courage to adopt a 'vulnerable and service-oriented' attitude. During the second part of the meeting, participants jointly explored which agreements might best form the basis for a proactive, safe culture. In



**Safety needs
our energy**

addition, potential dilemmas that might cross our path were discussed. A great exercise to exchange ideas together about behaviours, motivation and norms and how to deal with them.

A key insight: when things become tense, be curious and continue to invest in wanting to understand one another. Do not immediately fall back on contractual agreements.

The draft agreements designed to enable the partners to work as equal partners on a proactive, safe culture within the EU-303 programme are now being used to further shape objectives for 2022. All-in-all it was an extremely valuable meeting that demands active follow-up to enable all involved partners and TenneT colleagues to safely realise our EU-303 ambitions.

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3G obligation in Germany

Recently, the corona situation in Germany has also become much worse. That is why a new nationwide infection protection law has come into force as of November 24. This also includes a 3G obligation at the workplace for TenneT employees and employees of our (sub)contractors.

What does this mean for TenneT's (sub) contractors

TenneT ensures that all contractors organize the implementation of the 3G obligation for their employees and subcontractors themselves and checks the implementation in random samples. TenneT will obtain confirmation from each of its contractors that

- the contractor complies with the implementation of the 3G regulation for all of the contractor's own employees when working for TenneT and
- that it only employs subcontractors for work with TenneT who in turn comply with the 3G regulations for their own employees and subcontractors.

TenneT will verify the compliance of our contractors and subcontractors with the 3G obligation by means of on-site random samples. The inspection is carried out by TenneT employees or persons commissioned by TenneT, the procedure is described below. If the result of a random sample reveals a violation of the 3G obligation, Supply Chain



Management will initiate measures and, if necessary, inform all affected areas.

Inspection procedure

- Each sample inspection is carried out by the persons appointed by TenneT (inspectors) at irregular intervals.
- The inspector verifies whether the 3G credentials of the (sub)contractor's employees deployed at that location are available and valid for the current day.
- The inspections are always carried out and documented separately for each company. The result of the inspection is documented for each employee inspected (name and presence or absence of a valid certificate). If an employee does not have a valid certificate, he will be immediately ordered to leave the construction site and his supervisor will be informed via the location/project manager.

- In case of misconduct, the location manager/project manager will inform the responsible purchaser if there is a violation by a contractor or one of his subcontractors.

The following information will be recorded during the inspection:

1. Date of the inspection
2. Location of the inspection
3. Name of the inspector
4. Name of the company inspected
5. Name of the work supervisor of the inspected company
6. Name of the contractor (direct contractor of TenneT)
7. List with first and last name of each person checked and yes/no statement whether the 3G credential of this person is available and valid

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Safety Culture Ladder update

TenneT successfully recertified on Safety Culture Ladder level 3

TenneT has been recertified by NCI Certificatie on the Safety Culture Ladder level 3! The audit took place in both the Netherlands and Germany from 24 August until 10 September and the auditors visited 8 project sites, 4 offices and a warehouse. 46 managers and 91 operational employees have been interviewed. Some remarkable highlights of the audit findings are summarized below. We will evaluate findings and develop an improvement plan for the coming year(s).

The good points

- The Executive Board and management are involved in health and safety with a clear and present focus on leadership and involvement, this is clearly visible everywhere;
- In general there is a good basic level of health and safety awareness seen on the projects, taken care of by project management. The consultation and communication structures, workplace inspections, safety walks, instructions and dealing with deviations are generally well secured within the processes;
- TenneT has started a Safety Leadership programme, capturing the principles Connection, Courage and Ownership in its own organization;



- Partnership with contractors shows a promising approach within the EU303 programme.

Possible improvements

- Attention is needed for prevention policy to the control workload of employees. High working pressure noticed;
- Attention is needed to stimulate the behaviour to actually intervene in time when seeing a violation and/or an unsafe situation;

- Sub-sub-sub-contracting leads to less SHE awareness at subcontractors;
- SHE on-boarding process needs extra attention due to TenneT being a fast growing organisation.



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North-West 380 kV cluster of Large Projects NL on its way forward to SCL level 4

As mentioned earlier in previous newsletters, the Northwest 380kV Cluster within Large Projects Netherlands is working on attaining level 4 of the Safety Culture Ladder. The Northwest 380 kV cluster this year carried out a pilot in which managers, employers and contractors started working together on this.

Level 4 of the SCL in particular requires employees to proactively work safely. The objective is to enhance safety awareness and this way create a safer work environment, including psychosocially.

In the meantime quite a few actions and measures have been addressed and implemented and an initial balance sheet can cautiously be prepared. In January 2022, an audit will be conducted to clarify whether the Northwest 380 kV cluster meets the SCL level 4 requirements.

Here are a few examples of several visible actions and results that we want to share with you.



Golden helmet

Good ideas and exceptional safety behaviour deserve to be awarded. All Northwest 380 kV Cluster employees were invited to share a great initiative, idea or brilliant blunder to be able to learn from it. The Golden helmet is presented for this each quarter. This autumn, the first two ideas were rewarded with a Golden helmet.

TenneT colleagues earned the helmet on the basis of their idea for making a constructive adjustment to the common area of the Central Services Building at the Vierverlaten substation. They designed a service box facility embedded into the floor as a result of which loose lying cables along the wall no longer form a tripping hazard. The design has since been implemented.

The second helmet went to the Switch contractor's team. They conceived of and installed a Company Emergency Response container that can save lives at remote work sites, which occur in the northern part of the Province of Groningen.

Experience with attention-drawing communication resources

A pilot has been initiated with communication resources (banners, TV vehicle and interac-

tive screen) to draw employee attention to current and other safety issues.

Rules of conduct for distraction in traffic

A special action is a toolbox about 'distraction in traffic'. The toolbox contains hand-outs, tips and aids that contribute to driving safely.

Safety on the agenda

Safety is a permanently recurring agenda item. The aim is to encourage managers and people on the work floor to engage each other in discussion on a constant basis – ranging from management groups to building consultation meetings – about what can and must be improved in the area of safety.

The Safety Walks are quite well integrated into TenneT's work practices. They receive extra attention from the Northwest 380 kV cluster. Managers drop by onsite and discuss health and safety with colleagues and contractor employees. Instructive and beneficial for all parties!

The Safety Walks produce many positive results. Such as grid floors for cable ducts. Or a discussion about language and communication at work, how this is going and how it is perceived.

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Statements

Is your company certified and would you like to share your experience? We would be happy to hear from you about this through 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.

Lloyd's Register

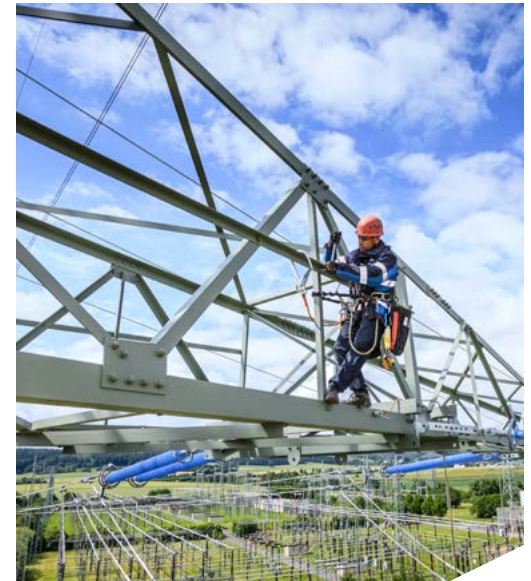
Internally, we have maintained and complied with our own very thorough safety guidelines for a very long time, safety having been a top priority even before this certification. The certification is nevertheless beneficial because it shows external companies that we are committed to safety.

Awareness has undoubtedly been raised even further and, in certain respects, some employees have come to even more clearly understand why we were insisting on the safety guidelines that we had already implemented.

Those actively involved have enthusiastically followed developments and appreciate the

fact that a system of certification exists to demonstrate the paramount importance of safety to the outside world and to ensure that operating safely is a matter of course.

To be honest, the biggest challenge has stemmed from the many restrictions due to the Coronavirus. Like all larger companies, we were able to forego in-person meetings to a reasonable extent, given the possibilities of video conferences or general online webinars.



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Fatal accident at Borken substation

On Thursday, December 2, 2021, we received the sad news of a serious work accident resulting in the death of one of our contractors. The accident occurred during the dismantling of a 30 kV medium-voltage switchgear panel at the Borken substation in Hessen.

The police and the public prosecutor's office have started investigations into the circumstances of the accident, TenneT will support these investigations to the best of its ability. Our sympathy goes out to the victim's family, friends and colleagues.

The following immediate measures were taken:

- Securing the scene of the accident
- Initiation of first aid measures
- Information of relevant authorities
- Initiation of an investigation into the cause
- Joint internal and external coordination between the contractor and TenneT

Recommendations

The causes and background of the accident are currently being investigated. Concrete recommendations for action cannot yet be given.

In light of the before mentioned accident, we expect all TenneT employees and employees of contractors to strictly adhere to

the Life Saving Rules, as they are designed to prevent fatal hazards.



Prevent dropped tools and equipment



Comply with electrical safety rules



Work with a valid work permit when required



Protect yourself against falling when working at height



Do not work, walk or stand under a suspended load



Use personal protective equipment when required

We would like to highlight two circumstances related to the implementation of the Life-Saving Rules:

1. Always consider the scope of the work permit. - Keep in mind that outside the scope, there are no safety measures.
2. Always comply with the 5 safety rules for working on electrical equipment - these are to prevent contact with live parts.

Do not hesitate to contact the responsible employee on site if you do not feel confident with the safety of your task or have any safety related question.



Re-enacted pictures of the accident scene. These pictures correspond only partly to the accident situation.

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Cross-arm bottom profile buckled during stringing operation

Incident description

For the purpose of conductor pulling work in a support mast (type Ton with Y-chains) the existing conductor, a bundles of 3 had to be lifted from the Y-chains.

However, instead of using an alternative attachment point directly next to the original Y-chain attachment points, the bottom steel profile in the middle between the two attachment points was chosen.

During hoisting, the bottom steel profile of the traverse bent and other diagonal steel profiles were also damaged. No one was injured. Immediate measures were initiated.

Measures

The selected anchorage points for hoisting bundles on Y- and V-type strings must be located directly next to the existing original attachment points and on the same profile. This is because these profiles are calculated to withstand the forces occurring. The system operator/client must be consulted whenever uncertain structural conditions are encountered.



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No safety hitches

Back to the table/drawing board after productive consultation

Ingo Seuren of Heijmans and Douwe Zijlstra of TenneT have experienced how safety can sometimes create tension in a relationship. At the high voltage substation in Meeden, where they work together, it proved impossible to safely carry out an assignment, which threatened to derail the schedule. They tell us how they were able to go back to the drawing board, each with the same objective in mind.

The steel masts, pipes and electrical wiring of the high voltage substation near Meeden in the Province of Groningen are gleaming in the autumn sun. This substation is one of the nodes in our power supply. To increase the capacity of its power supply grid, TenneT is working on a large-scale expansion and renewal programme of this substation and approximately 360 others in the Netherlands. This work is being carried out within the **EU-303 framework agreement** with nine selected cooperative partners, including Heijmans. TenneT aims to develop sustainable relationships with these companies in order to clear this gigantic undertaking.

Long-distance relationship

For Ingo Seuren of Heijmans and Douwe Zijlstra of TenneT it is a long-distance relationship: as Technical Manager for the Cable and Pipeline Systems business unit, Ingo regularly travels from the Province of Limburg to the Province of Groningen. "Heijmans is the systems integrator for this high voltage substation. We coordinate the design and other activities between ourselves and other

parties, such as Smit Transformatoren and Enexis. Heijmans builds various facilities for the transformers and builds the safety components and controls. Heijmans also ensures that everything works as it should." For Douwe, who lives in Groningen, the project is right around the corner. One of his many tasks as project manager is to ensure smooth cooperation among all contract partners.

An unforeseen hitch

Their relationship was put to the test at a very early stage, says Ingo: "The location established in TenneT's basic design proved to be too constrained to be able to carry out the assignment." Pointing to the transformers, Douwe outlines the assignment: "Heijmans had to build three transformer cells here. Each cell comprises a foundation plus protective walls surrounding the transformers. These walls prevent parts from flying off in the event of an explosion and also serve as a noise barrier to block the monotone hum of the transformers." The cells also include the portals for the

Douwe Zijlstra from TenneT (above) and Ingo Seuren from Heijmans.

substation's power supply grid and conductors: "The substation's power supply grid transports electricity from the transformers to the power pylons. It is therefore live at a high 220kV voltage," Ingo explains. "For reasons of safety, any work performed here must be four metres below the substation's power supply grid to avoid the danger of electrocution."

Lack of space

But at the site it became apparent that there was a lack of space. The location of the underground cables and pipelines also made it difficult to install the transformer cells. The entire underground infrastructure would have had to be relocated for this purpose.



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“When safety is an issue, we must look at the schedule from a different perspective.”



Douwe: “You cannot take the entire substation out of operation to carry out this assignment, because that would have a major impact on the power supply system.” Moreover, it would also make the maintenance of the substation unsafe in the future, Ingo adds, because the same safety rules apply to maintenance work. Conclusion: From the perspective of the security of supply, safety and future management and maintenance, the assignment had to be revised: one transformer cell went back to the drawing board for a new and safe design, while the other two were allowed to proceed by making some practical adjustments.

3D model

Although Douwe and Ingo were in agreement, they now had to get past the next hurdle: informing the other decisionmakers at the Meeden project. After all, everyone had to agree that a new design was necessary. To be well prepared for the upcoming discussions, Heijmans proposed making a 3D model of the situation. Douwe agreed, because “a decision of this nature has serious consequences and must be well supported. And while this takes time, **safety also is a key value at TenneT.**”

After the existing situation was carefully mapped out using a point cloud, ground radar and digging test trenches, the ingredients for a 3D model were ready. Heijmans put all this together and further supplemented this with all available information pertaining to the underground infrastructure, the transformer cells to be constructed, the safety zones relative to the substation’s power supply grid and other conductors.

Helpful tool

“The 3D model was extremely helpful because everyone now had the same picture in mind and the unsafe situation was clearly depicted,” says Douwe. “This was very useful, especially for online meetings. I have no idea how we could have accomplished this with paper drawings.”

The discussions nevertheless were intense, because certain conditions were under pressure, such as the commissioning date.

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A TenneT manager ultimately settled the issue, says Ingo. “The 3D model clearly showed him that the substation could not be safely managed in the future and that the blast-wall could not be safely constructed.” “And no one wants an accident on his conscience,” Douwe adds. **“Everyone around the table felt a responsibility for working safely.”** When safety is an issue, you tend to look at the schedule from a different perspective.”

Respect

Although the 3D model helped facilitate discussions, Douwe emphasises the importance of having all involved parties present at the table. “Everyone knows that we have to carry out the project together and we respect each other’s interests and choices.” It was **good to see that none of the parties held diametrically opposed views** and that there was no finger-pointing, Ingo says. “Everyone listened well and there was a safe atmosphere in which everyone was able to express themselves openly. You were able to say what you thought and no one was pressured to make unwanted choices. There have been times in the past when I have experienced this quite differently!”

Trust

Both parties concur that this openness at the outset of a partnership is quite special. “It is a matter of checking each other out at first, because you are all new to each other,” says Douwe. “But if you are open and transparent



towards each other, as well as clear and unambiguous, the level of trust grows.” Ingo: “After all it remains a human endeavour. The 3D model gave the consultations a different dynamic, however, and enabled everyone to sing from the same song sheet. This is an investment made by Douwe and his team, who realised its added value. It helps promote a good discussion about safety.” Heijmans made a good suggestion, Douwe accedes. “It means that we cannot only safely install the transformers now, we are also guaranteed that the management organisation will be able to work safely in the future.”

Both men look forward to bringing back their experiences to their own organisation, because colleagues will no doubt be able to learn from them. Although Ingo is working hard on completing the design phase, he considers it important to tell this story to as many colleagues as possible. “Ultimately working safely comes down to having good discussions about it.”

No matter how the partnership is going to evolve, it has adopted safety as a common value.

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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/

