

Postbus 718, 6800 AS Arnhem, The Netherlands

DATE  
CONTACT  
E-MAIL

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Paul-Georg Garmer  
paul-georg.garmer@tennet.eu

## **TenneT response to the EU Consultation on risk preparedness in the area of security of electricity supply**

Dear Sirs,

Thank you very much for the opportunity to take part in your consultation on risk preparedness in the area of security of supply.

TenneT supports the idea to draw up risk preparedness plans. We recommend that these plans should be prepared not on a national but on a regional, cross-border level because interdependencies between neighbouring countries and TSOs are increasing. The mandate to draw up these plans on a regional level should be given to TSOs.

Additionally unnecessary administrative burden on reporting should be avoided as there are already a lot of different national reporting obligations for market parties, TSOs and DSOs in place.

Why do we suggest to draw up risk preparedness reports on a regional level? Security of electricity supply is becoming more and more an issue of no longer national only but regional importance. Regarding the operation of the power grids currently each country has different allocations of responsibilities and different definitions of levels of criticality and different rules and priorities which measures are appropriate on each of these levels of criticality. From the perspective of a cross-border electricity TSO, TenneT therefore recommends to have common rules and common definitions in defining different stages of criticality and in defining the allowed measures on each level of criticality. These should be aligned throughout Europe, at the minimum from a regional perspective. From this view, TenneT supports the intention of the European Commission to develop plans and risk preventive measures in the field of security of supply.

TenneT recommends to give the mandate to draft these plans to the participating TSOs in the Regional

Security Coordination Initiatives (RSCIs). TSOs are well equipped for this and have experience in writing these plans on national level. And they have the knowledge what is really needed to improve security of supply and cross-border coordination.

The regional risk preparedness plans developed by the TSOs in the RSCIs should be aligned with the relevant authorities (e.g. Member States) and with an approval process in which also the national regulatory authorities have a role. ENTSO-E could take care of the task of information exchange to ensure alignment of these plans throughout Europe (content and definitions should be the same). The regulators should generally be involved to determine the allowed market effects and for possible costs approval issues. It also relates to strategic questions and national legal constraints where national governments should be involved.

With clarity on definitions, roles and responsibility in place, Europe would be ready for a future with increased integration of renewable energy sources and interconnected markets, bringing advantages for European consumers and giving European industry stable electricity supply.

Yours sincerely,  
TenneT TSO B.V.



Paul-Georg Garmer  
Senior Manager Public Affairs

**1. Whilst Directive 89/2005 imposes a general obligation on Member States to ensure a high level of security of supply, the Directive does not specify what measures Member States should take to prevent risks. Would there be an added value in requiring Member States to draw up a plan identifying relevant risks and preventive measures to respond to such risks (risk preparedness plans)?**

### **Support**

Yes. TenneT recommend to draw up risk preparedness plans, but on a regional, cross-border lever. Security of supply is becoming more and more dependent on neighbouring countries since the European electricity market is increasingly interconnected and dynamic since and Renewable Energy Sources (RES) are growing in volume of total electricity supply.

From the perspective of a cross-border electricity TSO and seen TenneT's job responsibility to maintain system security in the Netherlands and large parts of Germany, we recommend to have common rules and common definitions for defining different stages of criticality and on the measures taken on each of these levels. Currently, each country has different allocations of responsibilities and different definitions of levels of criticality and allowed measures. These should be aligned at least on a regional level.

These regional risk preparedness plans should be developed and written by the TSOs which are already cooperating in the respective RSCIs. TSOs have the experience to prepare such plans on a national level and they have the deepest insight which definitions and measures should be aligned on a regional level to really improve the risk preparedness and the security of supply.

### **Mind unnecessary additional administrative burden**

In case it will be proposed to Member States to draw additional regional plans, we urge the European Commission to take the responsibility to prevent any additional administrative burden for the market players including TSOs and DSOs seen the current reporting obligations. The below mentioned risks and preventive measures adopted in the Netherlands and Germany are in the view of TenneT sufficient to define critical situations on the national level.

TenneT reports in Germany and in the Netherlands on a broad spectrum of security of supply related risk measures:

- Adequacy reports, where the risk of not sufficient generation capacity is tackled
- Existence of defence and restoration plans
- Protection of critical infrastructure
- Two yearly 'weakness reports': from a TSO perspective to address weaknesses that have to be mitigated and controlled to ensure system security.

More specific, TenneT reports in Germany on the following plans:

- Annual generation adequacy report on the development of load coverage with 3 years time horizon (German: Leistungsbilanzbericht gemäß EnWG § 12 Abs. 4 und 5)
- Weakness point analysis with two year time horizon covers processes and tools to avoid severe supply disruptions (German: Schwachstellenanalyse gemäß EnWG §13 Abs. 7)
- Report on European critical infrastructure with two year time horizon listing critical assets

for the supply of other European countries (German: Bericht gemäß EnWG §12g zur sog. Europ. Kritischen Infrastruktur bzw. Anlagen)

- Annual report on reserve power plant demand presents results of system analyses for the next winter, furthermore a five year outlook (German: Bericht gemäß Reservekraftwerksverordnung §3 (2))

TenneT reports in the Netherlands on the following plans:

- Yearly monitoring report on adequacy and security of electricity supply (based on Directive 2003/54/EC, implemented in article 4a of the Dutch electricity law, 1998). Monitoring and necessary data collection is executed and defined to be a task by TenneT TSO (article 16f of the Dutch electricity law 1998), 15 years outlook.

The Dutch "Systeemcode" prescribes that:

- TenneT and the DSOs are obliged to provide updates on the defence and restoration plans to the regulator
- TenneT on a quarterly basis publishes the installed MW power and fuel type for all power plants bigger than 5 MW for the next 12 months.
- TenneT on a daily basis publishes the total available installed power plant for the next 9 months; changes of availability of the power plant should be provided within 2 hours after information delivery
- TenneT will inform the regulator in case a supplier cannot any longer fulfil his obligation to supply electricity. A procedure how to handle such circumstances should be published on the website.

**2. If yes, what should be the minimum requirements such risk preparedness plans should comply with? For instance, should they:**

**a. explain the various types of risks?**

**b. identify the demand side measures Member States plan to take (e.g., use of interruptible contracts, voluntary load shedding, increased efficiency, energy savings)?**

**c. identify the supply side measures Member States plan to take (e.g., increased production flexibility, increased import flexibility)?**

**d. assess the expected impact of existing and future interconnections?**

**e. identify roles and responsibilities?**

**f. identify how Member States co-operate or intend to co-operate amongst each other to identify, assess and mitigate risks?**

**g. other elements?**

Yes, the risk preparedness plans should cover all mentioned topics. TenneT proposes that these plans should be written on a cross-border, regional level by the respective TSOs and that they should cover all these topics - comparable in definitions and level of detail between different Member States. Assuming that every entity has more or less a risk preparedness plan prepared, raising questions on the depth of details is essential to achieve a common understanding.

The different risk each country accepts and prepares itself, the different definitions of levels of

criticality and the foreseen measures on each of these levels need to be commonly understood with common definitions. A non-exhaustive list of relevant questions to be discussed:

- What are the exact definitions of different stages of criticality?
- What is the order of allowed interventions on each level of criticality?
- Who has to pay for the different measures?
- Does a country first use national reserves before cutting the capacity of interconnections?
- Does a country accept high price volatility or are there price caps?
- What are the different national critical areas ('protected consumers')?
- What are the agreed national interventions in terms of defence measures/defence plans?
- To what extent are interventions in the market forbidden?
- When does the market "end" and when is the market "restarted"?
- What are the maximum price levels in situations when the market fails to match supply and demand?
- Are TSOs allowed or even obliged to cut imports or exports in critical situations?
- What are the rules for market coupling in critical situations?
- What is the level of fuel storage and availability (gas, coal)?
- What is the differing risk appetite in the different parts of Europe?
- What are the rights and obligations for a TSO in organizing risk mitigation measures, such as provision of available generation units in case of emergencies?
- What are the weak points, elements in the market and in the current legislation that have to be organized better?
- Existence and organization of crisis management and crisis communication?
- Planning how brownouts and other critical situations in the grid can be prevented or solved by cross-border support; e.g. by improved harmonisation of distribution of responsibilities, rules, regulations and procedures?

Taken the increased integrated internal electricity market, TenneT sees it as a no-regret option to further define roles and responsibilities on how Member States co-operate in the assessment and mitigation of identified risks. At the same token, regulators should also be positioned in a role to moderate the process and assess or approve common procedures.

### **3. Do you think that it would be useful to establish a common template for risk preparedness plans?**

Yes, there should be common definitions, also the 'risk preparedness plans' itself needs to be defined. A template might help in defining these.

In the Netherlands and Germany, the defence and restoration plans are developed by the TSOs. TenneT believes that the writing of risk preparedness plans on a regional level should come from participating TSOs in the Regional Security Coordination Initiatives (RSCIs). To have a European view, with the aim of keeping system security throughout entire Europe, there should be an additional place where these plans should be aligned. To ensure alignment, (e.g. the contents and definitions should be the same) the task for information exchange could be taken

care of by ENTSO-E. For the approval of these plans, the regulators should be involved for the cost issues and to determine the allowed market effects. It also relates to strategic questions where national governments should be involved.

**4. Given that electricity markets are increasingly interlinked, should risk preparedness plans be prepared at the national, regional or EU level?**

The plans should be prepared not on the national but on the regional level. Many of the current operational problems are regional problems which need regional coordination. For these a regional plan should be available among TSOs. As a final goal it is encouraged to find a European approach for defining and explaining the differences in the accepted risks and the allowed measures.

TenneT has contributed to the new developed methodology for adequacy assessment on a regional level. The study bridges the gap between the yearly published ENTSO-E Outlook reports (summer and winter outlook reports) and the ENTSO-E system outlook and long term adequacy forecast (SO&AF). The methodology currently has been applied on a regional level and might advance to be applied within the association of European electricity Defence in ENTSO-E.

The adequacy assessment methodology, at least at a regional level, could be used by the Member States to define plans or measures further.

See: <http://www.tennet.eu/nl/news/article/first-regional-generation-adequacy-assessment-report-published.html>

The plans/measures that could be developed based on the new methodology for adequacy assessment could be coordinated at the Electricity Coordination Group, if the Member States desire this. On EU-level the developed risk preparedness plans by the RSCIs could be shared and cross-checked within ENTSO-E.

**5. Do you see a role for the Commission in assessing these plans? Would you see an added value of having the plans peer reviewed, at a regional or EU level? What role do you see in this context for the Electricity Coordination Group?**

For the approval of the plans, the regulators should be involved for the costs and to determine the allowed market effects. It also relates to strategic questions and constraints of national law where national governments should be involved.

We recommend that the experts coordinate (or peer review) these plans/measures at a European or regional level. Whether the Electricity Coordination Group by the Member States and European Commission is the right format for this, we believe, is a question that is up to the Member States. It might be difficult enough to find common understanding and definitions, it seems therefore best to make use of existing knowledge of local situations via the TSOs and risk acceptance via national experts.

**6. What level of transparency should be given to the plans? Who should be informed of what?**

The defence and restoration plans are only accessible to the National Regulatory Authorities (NRAs) because of sensitive information regarding critical situations and the way prioritization is arranged during brownouts/blackouts. The risk preparedness plans will be of the same category and should therefore be handled as being highly confidential. Information from updates on these mentioned plans are the preferred way of handling.

**7. How often should risk preparedness plans be made / be updated? What are the relevant time frames to be covered?**

The update should be based on real needs. The first step is to check if an update is needed, and second step is a decision to update it.

The process should be monitored. The monitoring of the adequacy processes (under Directive 2003/54/EC) by the TSOs is relevant here. The majority of the reports (see under question 1) are written on a two-yearly basis. At the moment, TenneT estimates one or up to two years would be sufficient.

**8. Given the challenges that DSOs are facing (e.g. integration of renewables, more decentralised systems), should DSOs take an active participation in the assessment of the risks and preparation of the risk preparedness plans? If yes, do you see the need for separate assessments and separate risk plans at the DSO levels? Or do you believe it is more appropriate to ensure an active participation of DSOs in risk assessments and risk preparedness plans covering the entire electricity system?**

In order to guarantee the security of supply of the entire electricity system, especially with an increased integration of renewable energy sources, it is important that there is full awareness of the entire system at the TSOs and DSOs.

DSOs and TSOs will have to work together more closely to allow for efficient operation of the combined system. Exchange of information on (expected and real) consumption and production in the distribution grid is of growing importance. As is the coordination of the use of sources of flexibility in the distribution grid because sources of flexibility can contribute to congestion management, but also to portfolio balancing of market parties and system balancing of TSOs.

**9. Ensuring cybersecurity is an increasingly important aspect of security of supply. What measures should Member States take to protect themselves against possible cyber-attacks or other cyber-related threats? Do you see the need for specific EU rules on cyber security, targeted to the energy field? Given the cross-border nature of cyber security risks, what scope is there for enhancing co-operation (for instance through the exchange of best practices)?**

Remark:

The measures of an attack on the system jeopardizing security of supply should not be limited to those of cyber-attacks. If the system security is targeted (caused by an event other than security of supply disruptions due to falling trees, solar eclipses, natural disasters such as flooding) than the threat will most likely be an intelligent act and targeted to have a maximum effect.

If someone (state or non-state actor) aims at harming the system it will choose the most effective means. That does not have to be limited to cyber weapons or cyber surrounding and could be a mix of kinetic- and cybertools. The question should therefore not be limited to cyber terrorism alone.

We therefore propose to reframe the question:

Ensuring security against **mankind threats as terrorism** is an increasingly important aspect of security of supply. **What measures should Member States take to protect themselves against mankind (terroristic) attacks or mankind (terroristic) threats?**

Answer:

As the high-voltage network is more and more becoming a cross border hyper connected network where weak spots can threaten the whole chain a more intensive cooperation and alignment between MS to protect the grid against mankind threats is almost inevitable. This observation is backed by the more focussed approach of the European Program for Critical Infrastructure Protection (EPCIP) initiative, only Gas and Electricity on transport level are now in the scope (pilot project).

Direct actions can be to improve a close(r) cooperation among intelligence agencies within the Member States on CIP (critical infrastructure protection) to establish general threat scenarios for the Defence and a more intense exchange on best practises of security controls against terroristic attacks.

Mid-term action can be to set up a framework to identify critical assets within the MS, enforcing minimal standards and introduce a governance model. More or less like the aviation industry or nuclear industry.

**10. Currently, it appears that in some Member States, detailed emergency plans exist, whereas in others, there are only very summary emergency plans. Should there be an obligation for all Member States to plan for crisis situations, e.g., by including relevant rules and measures in the overall risk preparedness plans?**

We recommend to have common rules and common definitions for defining different stages of criticality and the respective measures on each level, coordinated between TSOs and Member States on the regional level. Currently, each country has different levels of obligations and tasks. These should be aligned.

**11. If yes, what should be the minimum requirements to be included? For instance, should Member States be required to:**

- a. Identify actions and measures to be taken in emergency situations (market and nonmarket-based)?**
- b. Set out the conditions for suspension of market activities?**
- c. Identify categories of 'protected customers' which, in case of a crisis, should not be subject to a disconnection measure (or only be disconnected by way of a last resort)?**
- d. Establish rules for cost compensation?**
- e. Indicate how they intend to co-operate with other Member States?**
- f. Reflect any other issues in their plans?**

Yes, the risk preparedness plans should cover all mentioned topics. TenneT proposes that these plans should be written on a cross-border, regional level by the respective TSOs and that they should cover all these topics - comparable in definitions and level of detail between different Member States. Assuming that every entity has more or less a risk preparedness plan prepared, raising questions on the depth of details is essential to achieve a common understanding.

The different risk each country accepts and prepares itself, the different definitions of levels of criticality and the foreseen measures on each of these levels need to be commonly understood with common definitions. A non-exhaustive list of relevant questions to be discussed:

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Taken the increased integrated internal electricity market, TenneT sees it as a no-regret option to further define roles and responsibilities on how Member States co-operate in the assessment and mitigation of identified risks. At the same token, regulators should also be positioned in a role to moderate the process and assess or approve common procedures.

**12. In relation to risk preparedness, how do you see the roles and responsibilities of:**

- national governments
- national regulators
- TSO's
- DSO's
- European bodies such as ENTSO-E, ACER, and the Electricity Coordination Group?
- European Commission
- other stakeholders, such as consumers?

In the last fifteen years voluntary initiatives (such as the RSCIs) of likeminded electricity TSOs taking action have been key in promoting the integration of European markets. The following are successful examples how small groups of TSOs and countries in the field of electricity have developed efficient solutions for urgent questions by setting up specialized service companies. These solutions are later usually taken over by larger groups of countries.

- The initiatives for establishing cross-border auction office as a single point of contact for the market (predecessor of CASC and CAO)
- The initiatives to establish TSC and CORESO to coordinate operational planning on a regional level
- The initiatives for Market Coupling

This success model of TSO cooperation in the electricity field should be maintained: it is proven to be based on successful problem analysis by the TSOs and pragmatic solutions, despite any legislative requirements. ENTSO-E fulfills the role to align on these activities and to define the European standards for information exchange and the level of transparency that TSOs have to provide.

The TSOs in the Regional Security Coordination Centre Initiatives (RSCIs) shall draw up the risk preparedness plans on a regional level

The assessment of planning processes of the system could therefore be done by the RSCIs (depending on the definition of these plans) and these could be reviewed under the umbrella of ENTSO-E at a European level, provided that the TSOs will be allowed by the national regulators for sufficient resources to obtain the new tasks on a European level.

### **ENTSO-E's network codes**

TenneT requests the Commission not to undermine the roles and responsibilities defined in the relevant Network Codes on the operation of the electricity system: the network code on Operational Security (NC OS), on Load-Frequency Control and Reserves (NC LFCR), on Operational Planning and Scheduling (NC OPS) and on Emergency and Restoration (NC ER).

### **Consumers**

In an integrated European electricity market with an increasing volume of Renewable Energy Sources, consumers will become more and more positioned in the driver seat.

They too will have a role to play in system security. It is therefore recommended to integrate as much as possible retail customers in the wholesale market.

- Improve the ability of the owners of small renewable generation and of storage to sell their flexibility to the market.
- Foster the efficient integration of any kind of flexibility in the electricity market.
- Improve the ability of retail customers to buy energy at wholesale market prices on 15 minutes basis.

### **13. Given the fact that many actors are concerned by security of supply issues, would you see an added value in the designation by each Member State of a 'Competent Authority', responsible for coordinating security of electricity supply issues at national level?**

TSOs are by nature 'competent' to write these plans. But the plans also need to be approved. Member States should be involvement (could be coordination group but TenneT has no strong opinion on this and believes that is up to the member states to decide). The regulators must be involved for the costs and market effects.

### **14. If it is decided to strengthen regional co-operation on a more structural basis between various players (e.g., when drawing up risk preparedness plans), how should regions best be defined?**

According to the regions of the security coordination initiatives (RSCIs).