



# Network Code Requirements for Grid Connection Applicable to All Generators

**Ton GERAERDS**

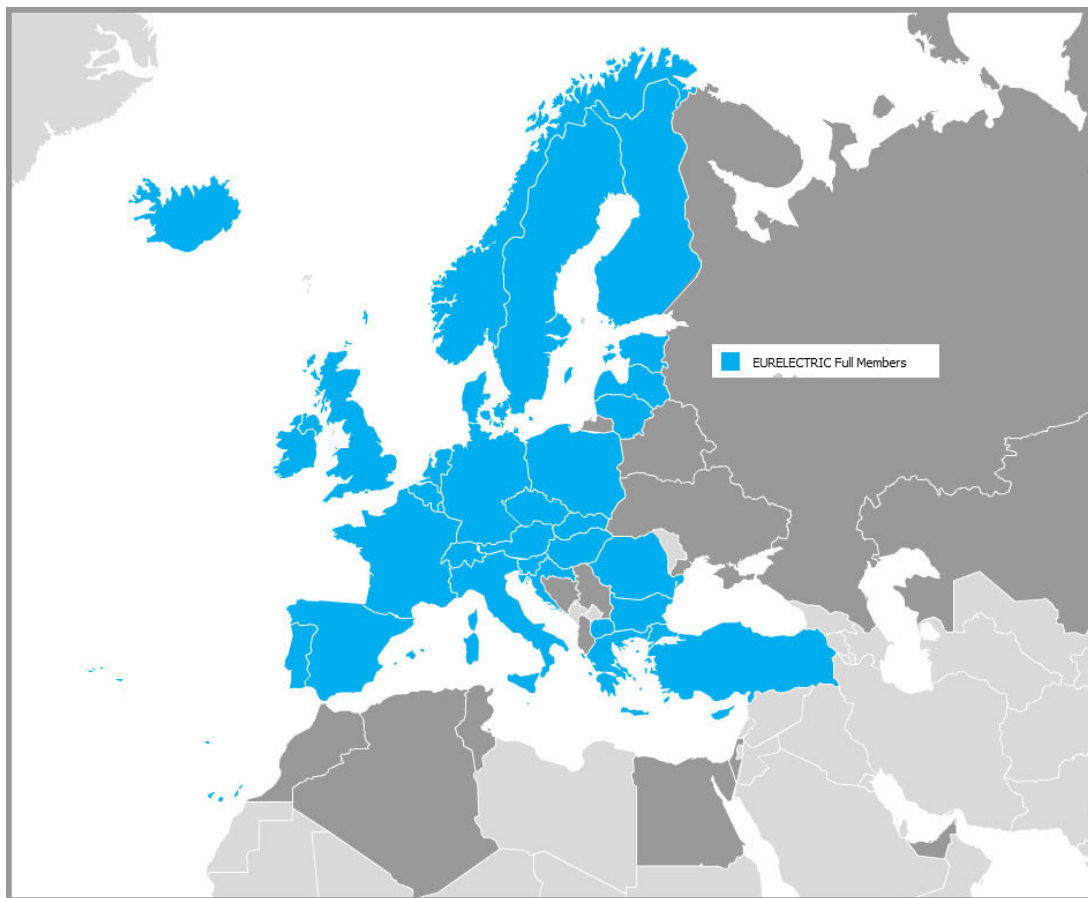
WG Thermal - EURELECTRIC

ACER Stakeholder Workshop,  
September, 3<sup>rd</sup> 2012



# EURELECTRIC – Union of the Electricity Industry

## Our members and commitment



### Combat climate-change

- Become carbon-neutral by 2050
- Boost energy efficiency & help electrifying transport, heating/cooling, etc., to fight climate change

### Deliver cost-efficient, reliable electricity

- Go for European, market-based solutions
- ‘Use them all’ – technology-neutral



## Where we stand today?

- ACER workshop is a timely and concrete effort to bring stakeholders around a table to express their concerns – this is extremely appreciated and helpful!
- NC RfG has been the subject of **extensive and lengthy debates on the technicalities of the NC...** however, stakeholders cannot accept the actual version!
- **Despite repeated requests from stakeholders, the justification and context documents came very late in the process!**
  - So late that it required ENTSO-E to ask for a few extra weeks to get it done before transmitting the final NC to the Agency!



## Some\* generator concerns...

- Lack of cost-benefit analyses, clearly and reasonably justifying new and deviating requirements
- Unbalanced allocation of responsibilities
- The missing link with ancillary services
- Missing balance between harmonisation and subsidiarity
- Outcome of legal analysis – a few examples

\* This list is not exhaustive



# Missing CBA and the justification outlines (1)

## ACER's mandate in the Framework Guidelines

“Where the **minimum standards and requirements** introduced by the network code(s) **deviate** significantly from the current standards and requirements, **there should be a cost-benefit analysis** performed by ENTSO-E”

## ENTSO-E interpretation in the NC RfG

- Can ENTSO-E demonstrate that the relevant CBAs **have been performed**? If so, have such CBAs been subject to evaluation by stakeholders and a relevant 3<sup>rd</sup> party, i.e. ACER?
- What is the **legal value of the “justification outlines”** – where ENTSO-E itself states that the document “is not legally binding and [...] is not supplementing the NC?”
- **Stakeholders requested in vain that the drafting team gave evidence of the CBA.** Only after finalising the NC RfG, ENTSO-E wanted to discuss it in the user group!





# Missing CBA and the justification outlines (2)

Requirement:	Installation of Devices for System Operation and/or Security			
Reference to NC RfG:	Article 10(6) (d)			
Cross-border impact:	This requirement contributes to system security, as it allows for installation of devices, which support this purpose.			
Exhaustive requirement:		Non-exhaustive requirement:	X	
Justification:	<ul style="list-style-type: none"> <li>The mere option to agree on such devices, which are not covered by this network code otherwise, is introduced by this requirement.</li> <li>This requirement is a precautionary option for unpredictable issues with impact on system security.</li> </ul>			
Principle/Methodology only:	X	(Ranges of) values/parameters given:		
Justification:	Further specifications can only be made, if an issue is identified, which shall be covered by this requirement.			
Alternative solutions:	Have no requirement and leave capability to the market. However, it is unlikely, based on extensive experience, that the required minimum capability will be made available without detailing what is required.			
Link to FWGL:	paragraph 3.1: "... The network code(s) shall set out the procedures and requirements to coordinate and ensure information sharing between ... System operator and significant grid user ..."			

- The alternative solutions section seems to be copied/pasted from other parts of the document as it doesn't fit with the requirement



## Missing CBA and the justification outlines (3)

<b>Requirement:</b>	<b>Transformer Neutral-Point Treatment</b>			
<b>Reference to NC RfG:</b>	Article 10(6) (f)			
<b>Cross-border impact:</b>	Proper earthing arrangements of the neutral-point at the network side of step-up transformers are crucial for reliable detection of faults by network protection to ensure system stability and security.			
<b>Exhaustive requirement:</b>		<b>Non-exhaustive requirement:</b>	X	
<b>Justification:</b>	<ul style="list-style-type: none"> <li>Neutral-point treatment of transformers is essential for the functioning of protection schemes and settings.</li> <li>The neutral-point treatment needs to be specified further by the Relevant Network Operator due to its earthing arrangements and regional earthing conditions of the network.</li> </ul>			
<b>Principle/Methodology only:</b>	X	<b>(Ranges of) values/parameters given:</b>		
<b>Justification:</b>	Further specifications on the neutral-point treatment can only be made by the Relevant Network Operator taking into consideration earthing arrangements and conditions.			
<b>Alternative solutions:</b>	<p><b>Leave this requirement to market incentives to deliver the necessary stability.</b></p> <p>However, there would be no certain basis upon which to plan and operate the system.</p>			
<b>Link to FWGL:</b>	<ul style="list-style-type: none"> <li>paragraph 2.1: "... Furthermore, the network code(s) shall define the requirements on significant grid users in relation to the relevant system parameters contributing to secure system operation, ..."</li> </ul>			

- Once again, the alternative solutions section seems to be copied/pasted from other parts of the document as it doesn't fit with the requirement



# Unbalanced allocation of responsibilities (1)

## ACER's mandate in the Framework Guidelines

“The network code(s) shall always require the **system operators to optimise between the highest overall efficiency and lowest total cost for all involved stakeholders.** [...] the cost split follows the principles **of non-discrimination, maximum transparency and assignment to the real originator of the costs**”

## ENTSO-E interpretation in the NC RfG

- **Several requirements are primarily linked to the performance of TSOs.** However, the NC pushes the burden on to generators **without any evidence that ENTSO-E has ascertained whether measures at grid level would be more appropriate.** There are no guarantees on the return/benefit for the whole user community
- **Several requirements impose obligations on generators where in fact they benefit the TSO** – e.g. instrumentation for fault and dynamic behaviour recording; remote switch on/off left to the TSO; reactive power; etc. **What happened to the principle that the beneficiary and originator of the cost pay?** Continues....





## Unbalanced allocation of responsibilities (2)

There it is...

4.2	The NC lacks a process to identify and define the "real originator of the costs" (incl ACER role).	disagree	The real originator is understood to be entity where the costs occur. Any other interpretation will cause confusion and will not come to a clear result, because of the interdependencies between performance of the network and the generating units.
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Evaluation of comments, pag. 35 (4.2)

So, ENTSO-E believes that the real originator of the cost is not the entity where the problem occurs in the first place. But rather, the costs should be allocated to the PGM that helps solve the problem

Let's try with a different example: a car accident (ENTSO-E view)

A drivers crashes into a house. The costs of the crash are not paid for by the car driver who damaged the façade of the house **but** rather **by the house owner** who got the house damaged (as ENTSO-E put it "where the costs occur"). Does ACER share this view?



## The missing link with ancillary services (1)

### ACER's mandate in the Framework Guidelines

“In the liberalised market, many ancillary services are **contracted** by Transmission System Operators from selected grid users that qualify for providing these services.”

### ENTSO-E interpretation in the NC RfG

- The **approach chosen** – with the notable exception of black start capability for which a solution has been found – **requests all large generators to have the technical capability** to supply such services. Isn't there a conflict between this approach and the Framework Guidelines?
- In fact, **several requirements** – e.g. balancing; frequency control; reactive power; houseload operation; island operation – **run counter the principle that TSOs have to procure** these services
- Requiring extreme capabilities to provide the **ancillary services for all large generators** will result in **oversupply and unnecessary costs** on customers



## The missing link with ancillary services (2)

- Being able to supply ancillary services entails **capital and operational costs without guarantee that the investment will be in the money**. Is this the way we choose to deliver a **competitive, liberalised European market**?
- **Our position from a EURELECTRIC paper of 2004 – time slipped by, but our position stays firm!**
  - “The general view is that as **many – non mandatory – ancillary services should be procured under market conditions** as possible”
  - “When the different market players (e.g. generators) have to work in a competitive manner, **it is no longer desirable to oblige them to provide certain services without adequate payment**”
  - “**All ancillary services should be paid for since provision invariably incurs economic costs. [...] If a generator is obliged to be able to provide an ancillary service, its costs should be recoverable**”



## Harmonisation and subsidiarity

- On the one hand, where requirements should be harmonised:
  - **Important grid requirements relevant for cross-border network management – e.g. frequency restoration control – are left open for discretionary decision at national level**
  - There is no request that TSOs transparently coordinate the implementation of the NC RfG and TSOs have to respect the principle of “openness of government”
- On the other hand, where different approach makes sense:
  - **Article 4.2 prescribes that the “respective regional specifics are appropriately taken into account”. The requirements do not bear such specificities and the cross-border relevance appears to be lost**
  - Example: FRT requirements do not take account of cross-border relevance or of TSO’s specificity



## Outcomes of legal analysis – a few examples

- Only the provisions in the network code will have legal value. Principles regarding the aspects of cross-border network issues and market integration issues described in the “Purpose and objectives” section have to be repeated in an article
- The time period for operation is not defined in table 2; 6.1 and 6.2: Is this over the lifetime of a PGM or per incident? The concept incident is not defined.
- Contradiction in Art 11.2.a.1 : “While respecting the provisions according to Art. 9.3.a and Art. 11.3.a, ...”. Which values are imposed on synchronous PGM, type D?
  - Table 3.1 with  $U_{ret} = 0.05 - 0.3$  or Table 7.1 with  $U_{ret} = 0$
- A description of all derogations is not publicly available. This is in contradiction with the principle of “Openness in Government” and “transparency” as imposed by Art. 37.16 of Directive 2009/72
- Is it acceptable to launch a re-assessment process with a publication on the website of a TSO (article 3.2)? A TSO is not an authority which would be subjected to clear transparency requirements and access to documentation requirements





## Conclusions and the way forward

- The NC RfG as delivered to ACER has not been subject to a real – peer to peer – cooperation with system users
- The NC RfG as it stands is not in line with the Framework Guidelines adopted by the Agency
- CBA's are missing and more time is needed to thoroughly analyse the “Justification Outlines” provided by ENTSO-E (which are not a substitute for the CBAs in any case)
- There are unresolved legal issues

**We call on ACER to re-open the discussion on the NC RfG**



**Thanks for your attention!**