RWE AG
Opernplatz 1
45128 Essen
Germany

RWE comments to ACER on Emergency and Restoration Code

Essen, April 29th 2015

Introduction

RWE welcome the opportunity to provide comments to ACER on the Emergency and Restoration Code dated 25 March 2015.

RWE is one of Europe's five leading electricity and gas companies. We are active across all stages of the value chain including power generation, energy trading, network distribution and retail supply.

We have been fully engaged with E&R code as it has developed, participating either directly or via relevant European and National associations. We have input our views on the Code dated 25 March 2015 to various European (EFET, EURELECTRIC /VGB) and National associations (BDEW) and hope that our views are reflected in their final response.

Herewith you will find our specific views on important elements.

We would also like to stress that, as drafted , the Code lacks the necessary detail needed to manage the system in an emergency (e.g. the definition of conditions for market suspension and how to establish system restoration in an efficient and coordinated manner). It affords the TSOs considerable individual discretion to develop important rules and conditions during the implementation phase. Whilst we recognise that it may not be practical and appropriate at this stage to harmonise, at the European level, some detailed rules and conditions, with this Code we risk a wide range of diverse rules which will ultimately undermine the objective of an 'internal market'. We would therefore urge ACER to ensure that the code is explicit on those elements that can be harmonised (from a practical point of view), and ensure that harmonisation is duly considered by TSOs during the implementation process. On the latter point, we therefore recommend that the Code place an explicit requirement on TSOs do this.

RWE

The energy to lead

Further cooperation between TSOs and DSOs *(as highlighted in BDEW position paper)*

Maintaining system security requires a close coordination of all players in the electricity sector. Consequently, a previous NC ER draft version was constructed such that TSOs and DSOs would coordinate their activities concerning defence plan preparation, execution of the planned measures and system restoration. This concept was welcomed by all stakeholders.

However, the draft NC dated 13 October 2014 provided a different concept: when elaborating their defence plan, the TSOs only have *to consult* other stakeholders, including DSOs. Following Article 5, *consultation* implies a far weaker stakeholder commitment than *coordination*: stakeholders' views and information are being collected, but the final decision-making on the concepts and procedures is left up to the TSO.

RWE is very concerned by this unilateral decision-making process, as most defence tools are connected to the distribution network and their settings and activation must be built together with the DSOs. During stakeholder meetings, RWE asked ENTSO-E to adapt the provisions of the NC ER such that a close cooperation between DSOs and TSOs is being guaranteed.

Regrettably, these points were not incorporated in the final draft version of the Network Code. In the view of RWE, however, close cooperation between DSOs and TSOs is one major prerequisite for safe and secure grid operation. Therefore, RWE asks ACER to take this into consideration and to review the provisions in the network code accordingly. Undoubtedly, emergency and restoration actions, also those taking place in distribution networks, aim at supporting TSOs in their responsibility of keeping the overall system safe and stable. Therefore, they must be designed and activated according to the TSOs' needs. However, as the main defence tools are connected to the distribution network, their settings and activation must be built together with DSOs. This implies that the DSOs are actively involved especially in two ways:

- Data collection for generation units connected to DSO networks should be executed via the DSO. If a TSO needs data on generators connected to a distribution grid, it should address its request to the relevant DSO directly. The DSO should be the single point of contact for DSO-connected grid users as is the TSO for TSO-connected grid users.

- TSOs should not be able to act actively on distribution grid users. Especially with regard to the disconnection of SGUs in case of emergency (article 15 of the draft NC) it should be provided that DSOs are not "by-passed" by TSOs. Unilateral action by TSOs without coordination could create stability problems at the local level, which could degenerate into a black-out. Apart from the direct security impacts, this may lead to controversies on the legal responsibility between TSO and DSO.

Notwithstanding their task to support the TSO for overall system security, the DSOs are responsible for their networks and their network users. In Germany, this principle is laid down in the current

version of the German Energy Act of 7 July 2005 (§ 11 (1) and § 14 (1) Energiewirtschaftsgesetz), which assigns the safety and security of the distribution system to the relevant DSO. Thus, DSOs should not be considered as network users but also as system operators.

In view of the growing share of distributed energy resources in the electricity system, close coordination between TSOs and DSOs is already in place in many countries and has been proven to be successful. In Germany, under the guidance of BDEW and the German Association of Local Utilities (VKU), all TSOs and directly connected DSOs elaborated an action plan for coordinated system security procedures which is in place since 2012 and is being reviewed as and when required.

The current draft NC ER lacks a commitment to this coordination between TSOs and DSOs. RWE considers that implementing the current draft NC would endanger system security and thus be contradictory to the targets of the Network Code on Emergency and Restoration. Consequently, in order to maintain system security in today's and tomorrow's electricity systems, the NC ER has to be adapted such that it provides a concept of close coordination between TSOs and DSOs.

Chapter 2

Article 9.7 and 9.8 – we believe that, not only should TSOs clearly document the relevant terms and conditions for the System Defence Plan & Defence Service Providers, but they should also be encouraged to harmonise them, particularly if they concern the same market area. This is especially important in a market such as Germany, where market participants often have to follow different demands from 4 different TSOs. Not only does this unnecessarily raise costs for all participants, it is inconsistent with the definition of an 'internal market'.

Article 10(4) – we do not believe that the significant grid user should bear the costs associated with the measures for the defence plan. Given that all users of the system benefit from such measures (like a form of insurance), we believe that the costs should be socialised and paid for via system tariffs.

We therefore suggest the following (Article 10.4)

> Each notified DSO, Significant Grid User and Defence Service Provider shall:
> a) implement the measures notified to it and confirm this implementation to the notifying Network Operator, who shall, when different from the TSO, notify the TSO; ~~and~~
> ~~b) maintain the measures implemented on its installations.~~

Article 14: Automatic under-frequency control scheme *(as highlighted in BDEW paper)*

RWE welcomes that ENTSO-E adapted the measuring units in table 1 to "% of the Total Load at national level". This makes the provision much clearer than in the previous draft NC.

Yet, the number of steps and the range of the steps in the demand disconnection scheme are still too challenging. The specifications used today will not comply with the provisions proposed. Thus, costly and time-consuming refitting processes will be the consequence, while the benefit for grid security is expected to be negligible. RWE therefore asks for a more pragmatic approach which would prevent extensive relay exchange processes and give network operators and network users more time to adapt their equipment. The definition of technical solutions should be left to the responsible institutions.

Besides, the exact frequency intervals in which the frequency relays have to measure and operate are not clear. Today, in Germany the frequency intervals of 300 mHz prevail. With the NC, the intervals would be reduced to only 166 to 100 mHz. This is critical since a certain time period is necessary to measure before the next step is being executed. In this context RWE wants to remind that it is not possible "to shed load in real time", as said in Art. 14 (4). A minimum time period to measure the frequency after each measure is necessary.

Art. 14 (6) b) says that each TSO and/or DSO shall minimise the disconnection of Power Generating Modules and especially those providing Inertia. However, due to the regional mixture of generation and demand in many distribution networks, DSOs cannot completely avoid to disconnect power generation since there are no other measures than disconnecting subnetworks and feeders available. In this context a fixed obligation to "minimise" the disconnection of Power Generating Modules is problematic, even if the TSO is entitled to prioritise, if need is, between the requirements under Art. 14 (6) b) and c). RWE proposes to harmonise the wording in both requirements and to replace the expression "minimise" under b) by "limit", as is already the case in c).

Art. 14 (7) says that the TSO may include, under certain circumstances, a demand disconnection based on a frequency gradient. This provision enables the TSO to introduce a new technical requirement which has not yet been tested in practice. Before applying such a rule, the technical implications for the affected parties should be examined, taking into account, among others, implementation costs of new types of frequency relays.

Article 16: Voltage deviation management procedure *(as highlighted in BDEW paper)*

In this article, there is still the danger of misunderstanding due to unclear definitions, as presented during stakeholder meetings. Art. 16 (2) could mistakenly be understood such that the provision addresses to significant grid users connected to distribution networks. By doing so, chances are that a TSO action could put the distribution network's operational security at risk and create a greater threat to overall network stability. One network operator should not interact directly with a grid user

connected to another network. In the interest of clarity, RWE proposes to insert the words "transmission connected" before the term "significant grid users".

Chapter 4 – Market Interactions

When developing the detailed rules and conditions for market suspension, TSOs / NRAs must ensure that the conditions are serious enough to warrant suspension and should therefore be encouraged to take sufficient precautionary measures to prevent such events occurring.

The use of term 'at least' in Article 34 we fear will enable TSOs to add further, unnecessary conditions which could become the basis of market suspension. **We believe this should be deleted**.

This is particularly important as the listed parameters in 34.4, whilst they appear sensible, there is a question as to what 'weight' TSOs will apply to each parameter, and whether they ought to be considered cumulatively, or in isolation. For example, as drafted, it would seem that a market could be suspended, even if itself is not in an Emergency State, in the event that cross border capability with a neighbouring system that is in an Emergency State is significantly affected (e.g. reduced to zero).

Furthermore, we believe that, when referring to events that affect the market, it is important to retain consistency with the market codes (for example, Capacity Allocation and Congestion Management CACM). The CACM code has been through a long process of consultation and agreement and, as such, we believe it is prudent to remain consistent with definitions as used in final CACM code.

We therefore suggest the following amendments for Article 34.2-4):

> *2. The rules and conditions for suspension of market activities shall ~~cover~~ ~~at least~~ ~~the~~ be consistent with a force majeure or an emergency situation referred to in Article 16(2) of Regulation (EC) No 714/2009, where the TSO shall act in an expeditious manner and redispatching or countertrading is not possible. A further condition is where the prolongation of market activities would worsen, the conditions of the Transmission System being in an Emergency State.*
>
> *3. The rules and conditions for restoration of market activities shall cover at least the situations where the restoration of market activities would not exacerbate, the conditions of the Transmission System being restored.* [we believe the conditions for restoration should be made more explicit – see below)
>
> *4. When defining the rules and conditions for suspension of market activities, each TSO shall consider ~~at least~~ the following parameters:*
> *a) a percentage of load disconnection in the LFC area of the TSO;*
> *b) a percentage of generation disconnection in the LFC area of the TSO;*
> *c) a significant part of the LFC area in desynchronised operation with the rest of the LFC area of the TSO;*

d) the reduction to zero of Cross Zonal Capacity on a Bidding Zone Border(s)

e) a percentage of affected entities referred to in Article 33(5) not able to execute their market activities for reason(s) out of their control; and

f) the absence of the proper functioning of tools and communication means necessary for TSOs to facilitate market activities.

Regarding the restoration of the market, we believe that the code needs to be more explicit. As such **we recommend the following (in place of Art 34.5):**

34.5 When defining the rules and conditions for restoration of market activities, each TSO shall consider at least the following parameters cumulatively:

a) Black start capacities running
b) a percentage of reconnected and remaining load disconnection in the LFC area of the TSO;
c) a percentage of reconnected thermal and or renewable capacities
d) a percentage of remaining generation disconnection in the LFC area of the TSO;
e) time constaints for generators and suppliers to choose for delivering schedules to TSOs (with respect to the specific market the generator is located)
f) a part of the LFC area remaining in desynchronised operation with the rest of the LFC area of the TSO;
g) availability of Cross Zonal Capacity on Bidding Zone Border
h) the time when cross border trading can restart;

As noted above, we believe that the TSO should take all reasonable measures to minimise the likelihood of market suspension taking place, and be held accountable to this obligation.

We therefore suggest the addition of a new paragraph after 34.5 (or, it may be included as part of Article 35 – Procedure for restoration of market activities)

Following the restoration of the market, the relevant TSO is obliged to:

a. Publish a report containing a detailed explanation of the basis for market suspension, referring to the rules and conditions in Article 34.2 and 34.4;
b. Submit this report to the Agency and entities referred to in Article 33(5) no later than one month after the incident;

If, upon consideration of the report, the Agency believes the situation is not consistent with rules and conditions described in Article 34.2 and 34.4, the TSO is obliged to consider, at the Agency's request, what further measures it should take in order to prevent a further incident from taking place.

Article 36 (1-2): The communication procedure in the event of an emergency is extremely important. **We believe that, in developing the communication procedure, approval from the relevant NRA should be required**. **It should also include the requirement for TSOs to inform relevant parties of suspension / restoration *as soon as possible.***

We therefore suggest the following Article 36(1)(2):

> *1) Each TSO shall develop and publish, in consultation with the entities referred to in Article 33(5), and following approval from the relevant NRA, a communication procedure detailing the tasks and actions expected from each party in its different roles during the suspension and restoration of market activities. The communication procedure shall also include information to the regulatory authority or other competent authority of the Member States concerned.*
>
> *2) The procedure shall include at least the following steps, which are to be taken as soon as possible:*
>
> *a) notification by the TSO that market activities have been suspended according to Article 34;*
> *b) notification by the TSO of best estimate for the time and date for Transmission System restoration;*
> *c) notification by the NEMO of suspension of Ahead Market Coupling process and/or relevant Intraday Market Coupling process, if any;*
> *d) notification by entities referred to in Article 33(5) which are affected to their customers of any suspension of market activities announced by the TSO and/or NEMO;*
> *e) updates by TSOs on the process for restoration of the Transmission System;*
> *f) notification by the entities referred to in Article 33(5) which are affected that their market tools and communication systems are operational;*
> *g) notification by the TSO(s) that the Transmission System has been restored back to Normal State or Alert State;*
> *h) notification by the NEMO of the best estimate for time and date when market activities will be restored; and*
> *i) confirmation by the NEMO that market activities have been restored.*

Chapter 5

In Article 39 there is still the demand for a discrete autonomous communication system without a clear statement concerning the responsibility for installation and operation of such an additional system. With respect to costs and feasibility aspects, there is a clear demand for standardization, too. **Therefore we wish to suggest to add to Article 39(3).**

'The required unique and standardized voice and data communication systems should be installed and maintained by TSO'

Article 40: Tools and facilities

Article 40 of the present draft NC requires backup power for critical tools and facilities for at least 24 hours. RWE considers these provisions to be ambiguous and too ambitious.

RWE acknowledges that a high level of quality of supply is of utmost importance for the European economies and the safety and health of their inhabitants. At the same time RWE realises that current technical guidelines in Germany require backup power for facilities in distribution systems for 8 to 12 hours. Until today, these provisions are sufficient to guarantee a high quality of supply in Germany, as they are flanked by operational measures to ensure successful re-energisation of networks. This is ensured by the fundamental operational guideline to put the whole network to a defined state by opening all circuit breakers when experiencing a blackout. By doing so, unintended re-energisation of grid elements and subnetworks are avoided. Re-energisation is then carried out by TSOs and DSOs following predefined and trained plans relying on the defined state as described above. Simulations and trainings in Germany show that this operational principle is suitable even for high values of distributed generation.

DSOs of RWE acknowledge that other electricity systems in Europe such as Great Britain already use backup power with higher rated batteries. Yet, requiring 24 hours backup power in all regions would induce considerable investments which would culminate to expected 330 million € for Germany only. These costs can only be borne over a time period of several years, and financial means have to be used in the most effective way.

RWE therefore insists for requiring the above described operational principle instead of high battery capacities and thus avoiding unnecessary costs for the public. Today's best practices from regions with high quality of supply such as Germany should be taken into due account. Informally, ENTSO-E explained that Article 40 of the draft NC is to be understood such that the 24 hours backup power requirement does not necessarily imply battery capacities but can also be fulfilled manually. RWE would welcome this but asks to clarify this in the text, since neither the current draft NC nor the supporting document mirrors this understanding.

Chapter 6

We believe that generators should get an appropriate refund for doing that testing, especially when TSO usually gets a full refund from grid fees. Therefore we suggest inserting Article 42, 3.

> *'Each Restoration Service Provider which is a Power Generating Module shall get an appropriate refund for executing Houseload Operation capability tests following the methodologies described in Articles 39(5) and 39(6) [NC RfG]."*

Chapter 8: Final Provisions

Article 53: Entry into force

RWE very much welcomes that the draft NC provides a 5-year period for the entry into force of articles 14, 39 as well as article 40 (1), (2) and (5). From a DSO perspective, considerable investments will have to be fulfilled under these Articles as formulated in the present NC. The financial burden incurred can be smoothened by the 5-year period.

Contact:
