Minutes
ENTSO-E Workshop with the DSOs Technical Expert Group on Operational Security Network Code (OS NC)

18 September 2012
14:00 h – 17:00 h
Avenue de Cortenbergh 100 - 1000 Brussels

Participation

DSOs Technical Expert Group for OS NC			
Juan	Gonzalez Lara	Endesa	Spain
Koen	Noyens	Eurelectric	Belgium
Axel	Sandner	SWM	Germany
Javier	Meco	Endesa	Spain
David	Vangulick	ORES	Belgium
David	Trebolle	Gas Natural Fenosa	Spain
Florian	Chapalain	EDSO for Smart Grids	Belgium
Bruno	Gouverneur	SYNERGRID asbl	Belgium
ACER (teleconference)			
Anne	De Geeter	ACER	Slovenia
ENTSO-E			
Tahir	Kapetanovic	APG	Austria
Michael	Weixelbraun	APG	Austria
Markus	Wallura	Tennet	Germany
Maria	Zerva	Swissgrid	Switzerland
Timo	Kaukonen	Fingrid	Finland
Ramiro	Fernandez-Alonso	REE	Spain
Donal	Connolly	Eirgrid	Ireland
Ana	Cigaran Romero	50HzT	Germany
Nathalie	Lemaitre	RTE	France
Jacek	Ratz	PSE Operator	Poland
David	Coan	National Grid	UK
Lars	Vormedal	Statnett	Norway
Olivier	Bronckart	ENTSO-E	Belgium
Ramunas	Bikulcius	ENTSO-E	Belgium
Pilar	Munoz-Elena	ENTSO-E	Belgium

Programme

13:00 – 14:00	Registration/Lunch	
14:00 – 14:15	Welcome	Olivier Bronckart *ENTSO-E Manager System Operations*

14:15 – 14:45	Integration of Stakeholders Comments After the 2nd Workshop and Next Steps	**Tahir Kapetanovic** *ENTSO-E Convenor of OS NC Drafting Team* **Ana Cigaran Romero** *ENTSO-E Member of OS NC Drafting Team*
14:45 – 15:30	**DSOs TEG view, Discussions**	**Workshop participants**
15:30-15:45	*Coffee break*	
15:45 – 16:50	**DSOs TEG view, Discussions**	**Workshop participants**
16:50 – 17:00	Conclusions	**Tahir Kapetanovic** *ENTSO-E Convenor of OS NC Drafting Team*
17:00	*End of Workshop*	

Presentations are accessible on the ENTSO-E website https://www.entsoe.eu/resources/network-codes/operational-security/ .

Welcome

Welcome and introduction was made by Olivier Bronckart and Tahir Kapetanovic.
ENTSO-E launched the web based public consultation on the OS NC on 3 September 2012, inviting interested parties to submit comments by 3 November 2012. As part of this consultation period, ENTSO-E holds this workshop with the DSOs Technical Expert Group (TEG) to present the draft OS NC and Supporting paper for the formal public consultation after updates are made to the network code based on stakeholder feedback received in all previous workshops and receive feedback on the draft network code in order to discuss and better understand the concerns of DSOs TEG.

Integration of results after the 1st and 2nd Workshops and Next steps

Tahir Kapetanovic presented the changes in the code after the 1st Workshops. Presentation is accessible on ENTSO-E website https://www.entsoe.eu/resources/network-codes/operational-security/ .

Ana Cigaran Romero presented the OS code supporting document. Presentation is accessible on ENTSO-E website https://www.entsoe.eu/resources/network-codes/operational-security/ .

Tahir Kapetanovic asked to submit all comments to the public consultation tool, available on ENTSO-E webpage https://www.entsoe.eu/resources/consultations/ .

DSOs TEG view, Discussions

David Trebolle, on behalf of DSO TEG, presented the DSOs opinion and proposals for further modification of the code. Presentation is accessible on ENTSO-E website https://www.entsoe.eu/resources/network-codes/operational-security/ . Discussion was held during the presentation with the main goal to improve communication on DSOs issues:

1) DSOs should be treated as neutral market facilitators and System Operators. The main reasons:
   - Most of new generation is being and will be connected to distribution networks;
   - Most of the demand side flexibility will be developed on distribution networks;
   - Provide information to market actors in a transparent, non- discriminatory and efficient way;
   - Ensure security of supply and quality of service in their networks;
   - Perform DER management actions for OS and OP&S.

2) DSO TEG considers that not all DSOs must be considered in the code because there are some DSOs that are not influencing overall system security and therefore, cross border issues. Consequently DSOs TEG asks to introduce definition of "Relevant DSO", as the only DSO's that might be taken into account in the code. The main reasons:
   - This would bring flexibility to cover current and future needs of DSO and TSOs in terms of the contribution to overall system security;
   - Due to the heterogeneity and diversity of DSO's through Europe, one size does not fit all – varying needs and technical capabilities of the network and its users must be taken into consideration; DSOs' varying impact on cross-border performance and overall system security depending on:
     o voltage levels they operate;
     o the degree of penetration of distributed generation.

Definition of Relevant DSO should be flexible to take into account future developments.

ENTSO-E explains that it is challenging now to define what is relevant. Not relevant today may become relevant tomorrow. It is difficult to specify criteria and thresholds for relevance, even if we speak only impact on cross borders. The DT will discuss that issue.

DSO TEG agrees with ENTSO-E in this is point and remark the relevant DSO approach as a good solution for considering what is important today and next future.

3) Definitions in the code.

The code uses concepts without defining them, for instance, no definition of TSO, DSO, Relevant TSO, relevant DSO, Power Generating Facility, Power Generating Module.

The code includes overlapping definitions: Control Area, Observability area, Responsibility area.

Definition of N-1 criterion, N-1 situation and contingency, should refer to the unavailability of a grid element, not to a fault.

ENTSO-E explains that definitions which are already used in Directives, Regulations and more advanced codes apply to OS code and will not be repeated in OS code.

DSO TEG remarks that differences between responsibility area and observability are being very well explained by ENTSO-E DT with the supporting paper, but there is still some confusion between control area and responsibility area. ENTSO-E agrees on this point and will try to explain this better in the supporting paper.

More explanations on N-1 criteria will also be in supporting paper. Planned unavailability of grid elements is situation N in transmission system. N-1 for transmission grid is usually automatic disconnection of grid element. Transmission grid always shall have redundancy and works in closed chains, but distribution grid usually works in radial and need different treatment. This will be more explained in supporting paper.

Finally it is agreed that N-1 could remain as it is in OS code.

4) Recovery of costs

According to DSOs TEG position DSOs should be able to recover the costs incurred, as the TSOs will do. Coherence among all the codes is required. E.g. as stated in DCC Article 4(5) and RfG, DSO will be enabled to recover all the costs as the TSO:

Art. 4(5) With regard to cost recovery:

*a) **The costs related to the obligations referred to in this Network Code which have to be borne by regulated Network Operators shall be assessed by National Regulatory Authorities**.*

b) Costs assessed as reasonable and proportionate shall be recovered in a timely manner via network tariffs or appropriate mechanisms as determined by National Regulatory Authorities.

c) If requested to do so by National Regulatory Authorities, regulated Network Operators shall, within 3 months of such a request, use best endeavors to provide such additional information as reasonably requested by National Regulatory Authorities to facilitate the assessment of the costs incurred.

ENTSO-E explained that DT will check the coherence of cost recovery provision among all NCs and will pay additional attention to this suggestion, repeating again the invitation for this and all other comments, to be submitted within the public consultation.

5) Information exchange. DSOs TEG position is that:
- The relevant DSO is willing to provide the TSO with information on **Significant Grid Users** (both generators and demand facilities). For, **non significant users**, relevant DSO should provide information **only in aggregated form** at the T/D interface.
- The DSO should provide the TSO with information on **active but not reactive power**.
- **One size does not** fit all – the same level of information exchange may not be necessary everywhere. Current technical capabilities of the network must be taken into consideration (e.g. small DSOs do not have SCADAs).
- *Proposed change: for all real-time information exchange requirements, a reference should be made to article 3(3)*
- TSO will also provide relevant necessary data to the DSOs. If a DSO does not know the info, distribution network operational security could be affected, and then overall system security and cross border flows may be.

Tahir Kapetanovic reminded to submit all comments to the public consultation tool, available on ENTSO-E webpage https://www.entsoe.eu/resources/consultations/ .

Some detailed comments are proposed by DSOs TEG, which will be assessed by the DT on OS NC. Changes in black:

- Article 15(4)(a)

"TSOs to communicate without undue delay to all neighbouring TSOs, **and impacted relevant DSO's**"

- Article 15(4)(b)

"obligations **of TSO and** ~~the~~ Relevant DSOs to inform **each other** without undue ~~delay their TSOs~~ of any changes in the data and information scope and contents from Chapter 4 of this Network Code"

- Article 17(2)(e)

"active and reactive injections and withdrawals of generation and, demand ~~and subsequent DSOs~~"

- Article 18(1)

"**In accordance with article 3.3** each TSO shall define the Observability Area of the distribution networks connected to its transmission system which are relevant to accurately and efficiently determine the System State of the transmission system. **Relevant DSOs shall define as well the observability area of the transmission System and neighbouring DSOs to accurately and efficiently determine the system state of the distribution system.**"

DSO TEG explains that DSO will also require transmission network information in order be able to analyze their grids and calculate their contingency analysis. The reason for that is that the influence of transmission system on distribution system should be taken into account.
ENTSO-E understands this aspect and will analyze how to accommodate it in a suitable way at the code.

- Article 18(2)

*take out **'but not limited to'***

- Article 18(2)(d)

~~Power Generating Facilities and Demand Facilities of relevance~~ **Significant grid users** *for the Operational Security of the transmission system; and*

- Article 18

Proposed to add, at the end: "**TSO shall also provide the same structural information to Relevant DSO regarding the part of the Transmission System affecting distribution network**

- Article 18.3

Each DSO connected to the Transmission System shall provide the TSO with updated structural information of the elements of the Observability Area every time it changes. **Relevant DSOs shall define as well the observability area of the transmission System and neighbouring DSOs to accurately and efficiently determine the system state of the distribution system**

- Article 18(4)

Why is this new requirement needed for operational security issues?
ENTSO-E remarks that will analyse it and will come back with an answer on this.

- Article 19

Title of the article: "~~RELEVANT~~ REAL-TIME DATA EXCHANGED BETWEEN TSOs AND ~~RELEVANT~~ DSOs WITHIN THE TSO's RESPONSIBILITY AREA"

- Article 19(1)

In accordance with article 3(3), each Relevant DSO connected to the Transmission System shall provide in real-time to its TSO the information related to the Observability Area referred to in Article 19(1), which is relevant for the Operational Security of the Transmission System comprising: ...

- Article 19(1)(d)&(e)

Merge these two into: "**active and reactive power withdrawals and injections of any Significant Grid User**"

- Article 19

Propose to add: "**The same data regarding Relevant DSO Observability area shall be provided by the TSO to the Relevant DSO**"

- Article 23

add **RELEVANT** DSO to the title

- Article 23(2)

Propose to add last sub-article 23(2): "**Power generating facility operator shall inform their Relevant DSO about any relevant change in the scope and contents of the data of this article**"

- Article 25(1)(b)

active and reactive power flows, including the direction, **current** and voltage at the Connection Point;

- Article 26

Delete. Any information required by TSO from significant grid users will be provided by relevant DSO

- Article 28

Delete, Any information required by TSO from significant grid users will be provided by relevant DSO
DSO TEG remarks same comments that were mention at article 26.

Regarding articles 26 and 28 DSO TEG explains that articles are not necessary because the data exchange requirements between relevant DSOs and generator connected to distribution system (articles 23, 24, 25) and between relevant DSOs and TSOs (articles 18, 19) are already defined in the code. So article 26 is not required and if exists could impose extra costs because data communication from generator could be duplicate which is not efficient.

ENTSO-E, explained that today the data exchange between TSOs, DSOs and generators/loads connected to distribution network is organized differently in different countries so both ways should be reflected in the code. The codes should ensure that network have data to necessary to conduct security analysis. This leads to better system operation, efficiency of data exchange and costs. Changing of today practices will incur costs. DT will consider this issue to have flexibility of data exchange means involving NRAs.

DSO TEG explains that this information will always be needed by DSO. There are some countries where information of generators connected to Distribution networks is only being managed by TSO, excluding DSOs. DSO TEG explains that this situation is extremely unsuitable because overall system security is on a risk.
If this type of communication between generators connected to DSOs is duplicated and, also established between TSO and these generators, should be justified from a cost benefit approach.

6) Terminology:
Individual comments made by DSO TEG members:
- Need to avoid similar definitions in the different NCs, e.g. significant grid user (OS), significant generating facility (RfG), significant demand facility (DCC).

ENTSO-E is using different terms in each code and is formally right. More description on significant grid user will be provided in supporting paper.

- There is a need for consistency of definitions, giving the example of the term relevant network operators used in connection codes.

According to ENTSO-E, using of term ''relevant TSO'' will load OS code, meaning and readability will be lost. System operation codes are for all TSOs.

- Who is checking if TSOs define observability area in correct way in Article 18(1). In Article 19 TSO can require information from DSO, so in extreme case TSOs can ask data on each customer. At least NRAs should be involved in the process.

ENTSO-E explained that term observability area was introduced after November 6 events for security calculation reasons in order to avoid emergency spread and cascading. Observability area is based on technical and physical principles and laws and only TSOs can determine it, no negotiations are possible here. Of course NRAs are informed.

- DSO experts say that is also goes to DSO level and in this case it should be checked by the third party (e.g. NRA)

ENTSO-E explains that observability area cannot be changed, discussable and negotiable even after NRA is informed.

- Why balance responsible parties are not involved in any process by OS code and what interaction of OS NC with Balancing NC?

ENTSO-E answers that OS NC is dealing with technical matters and relations among participants on technical issues. This is why main parties are TSOs, DSOs and significant grid users (but nor balance responsible parties). The way of treatment of balance responsible parties will be described in supporting paper.

7) Compliance:
- DSO experts claim that chapter 6 Compliance is duplicating provisions on compliance monitoring by TSOs from connection codes and ask what kind of compliance test other than covered by connection codes could be carried out by TSOs. Compliance with requirements in the legislation should be wider.

ENTSO-E explains that there are many requirements that are not covered by connection codes, e.g. data exchange – ability to send/receive data; automatically disconnect in Article 17. More explanations and examples will be in supporting paper.

Conclusions

Tahir Kapetanovic thanked the participants from DSOs TEG and ACER for active participation, constructive and practical comments and closed the Workshop, once again **reminding to submit all comments to the public consultation tool, available on ENTSO-E webpage** https://www.entsoe.eu/resources/consultations/ .