Minutes
3rd ENTSO-E Stakeholders Workshop
on Operational Security Network Code (OS NC)

19 September 2012
10:30 h – 17:00 h
Avenue de Cortenbergh 100 - 1000 Brussels

The workshop attracted about 30 attendees. List of participants and workshop materials are published in ENTSO-E webpage under the link: https://www.entsoe.eu/resources/network-codes/operational-security/

Programme

10:00 – 10:30	*Registration/Welcome coffee*	
10:30 – 10:45	Welcome	Olivier Bronckart *ENTSO-E Manager System Operations*
10:45 – 11:45	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*
11:45 – 12:30	Stakeholders' view, Discussions	Workshop participants
12:30 – 13:30	*Lunch*	
13:30 - 15:00	Stakeholders' view, Discussions	Workshop participants
15:00 – 15:30	*Coffee break*	
15:30 – 16:45	Stakeholders' view, Discussions	Workshop participants
16:45 – 17:00	Conclusions	Tahir Kapetanovic *ENTSO-E Convenor of OS NC Drafting Team*
17:00	*End of Workshop*	

Presentations are accessible at 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 stakeholders' comments after the 2nd Workshop and next steps

Tahir Kapetanovic presented the changes in the code after the 1st and 2nd 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/ .

Main feedback from workshop with DSOs TEG 18 September 2012:

1. Not all DSOs affect the system in the same way, so DSOs TEG asks to introduce definition of Relevant DSO.
2. Definitions of ''control area'' and ''responsibility area'' should be clarified.
3. Not very clear, if operation under N-1 security is the same for distribution system. Will be described in supporting paper.
4. Obligations for TSOs and DSOs in terms of data exchange.
5. Cost recovery for DSOs is missing in the draft code.
6. DSOs duty for aggregation of data from not significant generation and demand according to connection codes.
7. Concept of observability area for DSOs. DSOs are concerned about data needed from TSOs to ensure modeling and security assessment of distribution system.
8. Definition of ''significant grid user'' should be clarified.
9. Data flow from generation and demand connected to distribution system should be through DSO.
10. DSOs TEG asked for NRA involvement in defining observability area.
11. OS NC relationship with Balancing NC. How balancing responsible party is related with OS NC.
12. Not clear why Chapter 6 Compliance is needed.

Stakeholders' view, discussions

UK, SSE Generation

Question: Why requirements in RfG are the same for all synchronous areas?
Answer (ENTSO-E): Supporting paper for OS NC explains that.

UK, SSE Generation

Question: Will it be a single CGM?
Answer (ENTSO-E): yes, one set for different timeframe, but different parts of the same set are used for different purposes.

UK, SSE Generation

Question: thresholds for significant users cannot be set by TSOs only. NRAs shall approve.

Answer (ENTSO-E): formally significant grid users are used only in this code and NRAs are involved in this process. E.g. solar panels were not significant some years ago, but now their impact is significant. It doesn't mean a monitoring and information exchange in real time for all solar panels in real time.

Belgium, Electrabel

Comment: definition N-1 doesn't include time for repair of equipment (unavailability). Out of range faults cover only damage after oscillations, but not voltage or frequency deviations. Resonance in turbines after such deviations can damage blades of many turbines in Europe. It can take 2 years to get spear parts.

Spain, Endesa

Comment: generators have many responsibilities but very few rights. E.g. in Art.11 permission is required for generators to reconnect, but information on line outages is not available from DSOs; in Art.22 generators shall send P and Q data, but TSOs are not obliged to send the same data to generators; in Art.21 generators inform TSOs and DSOs about unavailability, but not get information of unavailability of lines.

Belgium, Electrabel

Question: what is a procedure for coherency of NCs?
Answer (ENTSO-E): asks for general comments and more related to the chapters, if any inconsistency is found by the stakeholders.

Austria, E-Control

Comment: consistency of definitions is still not reached. Agrees with approach that definitions of the more advanced NCs applies to all NCs. Approach of DCC seems to be different. So there is a need for a list of all definitions. Regulators ask for reflection of capabilities asked by RfG in system operation codes.

Belgium, Electrabel

Question: in DCC and RfG compliance procedures are already described, so for consistent approach why we need chapter of compliance in that code.
Answer (ENTSO-E): examples, which are not covered by connection code, will be in supporting paper.

UK, SSE Generation

Question: TSOs will define a law unchecked by anybody, e.g. Art. 6.1, Art. 6.2, Art 8.2, etc. There are no references to NRAs approval in the code. There is no oversight by NRAs at all. Many things need to be published.
Answer (ENTSO-E): system operation is based on physical laws and functions in real time. All limitations for voltage, frequency, system states are legally binding already now. Present MLAs rules are already valid and binding. TSOs shall be responsible to define operational limits in real time, but methodologies are adopted by NRAs. Transparency will be ensured by transparency guidelines according to which all information relevant to the market will be published.

UK, SSE Generation

Question: TSOs propose everything and NRAs shall approve. If not, TSOs will define something that overwrites provisions of national laws.

Answer (ENTSO-E): codes become binding when EC adopt them by comitology. We must accept that provision in that code are based on physics and are different from provisions of the other codes.

UK, SSE Generation

Comment: NRAs will not define other numbers on national level than defined according to laws of physics, but define numbers which have commercial interest.

Belgium, Electrabel

Comment: if compare RfG and DCC with OS code the connection codes are full of numbers. OS code contains ''endeavours'' in many places and have no obligations to TSOs. E.g. clearance time could be defined, where milliseconds have huge impact on generation.
Answer (ENTSO-E): asks to provide places where numbers are missing. TSOs are not the only body that influence the parameters of the system, so endeavour is the best wording to ask TSOs to do their best to keep the system within limits. Grid users are usually responsible only for their own behaviour.

Belgium, EC

Comment: according to Regulation, NRAs shall have some obligations on system operation. The TSOs decisions should have some EU meaning and NRAs shall have role on that. E.g. very important is N-1 obligation. None any hard core thing is defined in figures. It is not acceptable that core figures are not in the code.
Answer (ENTSO-E): NRA should be informed, but security limits are defined according to characteristics of equipment by TSOs. Capabilities of generators are in RfG and OS do not repeat.

Belgium, EDF Luminus

Question: there is a gap with RfG. If system is operated in such wide limits defined by RfG, there will be huge impact in European system. System usually is not operated in that limits.
Answer (ENTSO-E): ranges and figures of RfG will be recalled and explained why they are imposed by RfG. Limits defined by RfG are needed to run the system in alert, emergency, system restoration states. Normally electricity quality is kept according to electricity quality standards for customers. According to the experience of today developments the system now is more often in alert and emergency states than it was earlier, so new generation should have more capabilities to make the system operation possible at the same level of system security.

Belgium, EDF Luminus

Comment: generators want to see long term grid planning, to show the ranges in future and need of generator capabilities for system operation.
Answer (ENTSO-E): this is not a matter of this code. This is an issue of TYNDP.

Belgium, EC

Comment: the purpose of code is to have a view how things will work together in future. Obligations of TSOs should be more precise.
Answer (ENTSO-E): The main obligation of TSO is to keep the system secure. Listing more precise rules than general principles could lead to not complete list of possible actions, and could limit TSOs in meeting this main obligation. More detailed obligations are set for grid users in order to set a playing field for TSO and not allowing to require more from the grid users than their declared capabilities.

UK, SSE Generation

Comment: figures are in RfG, but they do not provide scenarios.
Answer (ENTSO-E): this is not a matter of this code. This is an issue of system development, e.g. TYNDP.

Austria, E-Control

Comment: there are many supporting papers for RfG. Asks for vision why these figures are taken in the code. Asks for vision of future system and system operation of the systems.
Answer (ENTSO-E): this is not a matter of this code. This is an issue of system development, e.g. TYNDP, etc.

Belgium, Electrabel

Question: overfrequencies and closed distribution networks are missing in the code. Art.7.6 and 8.5 how to ensure that old and new equipment remain connected. RfG is for new generation only, while OS is for all generation. Why?
Answer (ENTSO-E): overfrequencies are easier to handle by disconnecting generators (but only in case that RES are controllable). DT will take this comment into account. Concerning the last question, the system should be operated as it is. It is not possible to operate old and new generators separately, it should cover all existing mix of generation and demand, so the security limits are set according to characteristics of equipment by TSOs in their responsibility area and because of different system design could differ.

UK, SSE Generation

Question: DCC is referring to closed distribution networks, so OS code should mention them also. DCC requires some capabilities from closed distribution networks, but they are not required by OS. Why?
Answer (ENTSO-E): OS NC covers system issues, having influence on cross borders. Distribution systems usually do not have direct influence to the cross borders, because all internal problems shall be solved internally by TSO (usually one country with some exceptions) not to allow cascading to the neighbours. DSOs' and closed distribution network issues should be solved on national level.

Belgium, Vaasaett

Presentation: SEDC (Smart Energy Demand Coalition) presentation. The main concern is communication requirements for consumers. E.g. Art.28 (1) and (3) need meters (only industrial consumers have such meters, but this requirement asks to have such meters by all residential consumers). First area of concern is wide definition of ''each Demand facility'' used here and preliminary proposal by SEDC is to narrow definition to each industrial demand. Some other suggestions – to make definitions more exact, to indicate if it is related to frequency or other criteria (seconds for communication are needed for frequency), to use more aggregation.
Answer (ENTSO-E): purpose is to have overview on demand response and capabilities and not to prohibit end consumers from provision of ancillary services.

UK, SSE Generation

Comment: here are roles to be defined in large volumes of response. It is possible to crash a system if big volumes are not controlled, e.g. big amount of demand is disconnected. The control of the aggregator should be controlled to avoid overreaction.
Answer (ENTSO-E): one of the most serious concerns is cyber security and hacking of smart meters. Cyber security and obligations of TSOs and governments is in Art.6(13) and (14).

UK, SSE Generation

Comment: security and emergency plan shall be reviewed by member states governments, updated on cyber issues and approved, especially restoration. In 6(14) member states are responsible for defence plans. TSOs are confidential on those issues and defence plans are not published.

Belgium, Electrabel

Comment: if TSOs need public grids to communicate with balance providers, then the issue of black out of communication is missing in the code. Communication is a paramount of emergency situation because of one simple power supply in communication chain is missing. The code is not going into emergency situation. Some strategic and important issues on alternative communication might be added.

Belgium, GDF SUEZ

Comment: Art.28 can be read that each demand shall communicate to TSO. In Art.27(5) should be added that demand shall inform about minimum and maximum power can be delivered.

UK, SSE Generation

Comment: disconnection of demand leads to reduction of supply and payment of balancing costs. How it is compensated?
Answer (ENTSO-E): In Art.28 the commercial demand side response is meant. It is market product and compensation is not a matter of this code.

UK, SSE Generation

Questions: some services are mandatory in DCC. There is no differentiation in this code. Voluntary services are compensated, but mandatory?
Answer (ENTSO-E): Demand response in the code is only voluntary. Mandatory is only load shedding, which is not negotiated, disconnection is organized in steps in order to survive in emergency.

UK, SSE Generation

Question: DCC has load shedding, demand side response (temp.), demand side response (voluntary, commercial).
Answer (ENTSO-E): in this code DT means only voluntary demand side response.

UK, SSE Generation

Comment: Art.17 in DCC is for frequency control purposes.
Answer (ENTSO-E): DT will use it consistently.

Belgium, EDF Luminus

Comment: Art. 27(5) asks each demand facility to report in real time, but not only those who participate in providing voluntary services.
Answer (ENTSO-E): Yes, but only demand facilities connected to TSO and it could be 0 declared in advance, if demand facility is not participating.

Belgium, EDF Luminus

Question: does this article cover only entities participating in providing active power reserves and reactive power control?
Answer (ENTSO-E): for all.

France, EDF

Question: there is definition of active power reserve, but no definition on reactive power reserve.
Answer (ENTSO-E): reactive power depends on running point of generator.

Belgium, Electrabel

Question: why data to TSO shall be provided on the high voltage point, but not at the connection point in Art.22? TSOs already have data from connection points by connection codes.
Answer (ENTSO-E): TSOs are interested only on the high voltage side, but connection point could be in different low voltages and there could be more than one connection point.

Belgium, GDF SUEZ

Question: there is information available for TSOs by transparency guidelines and other. How to avoid sending information to many platforms?
Answer (ENTSO-E): We want to put data in one code and have to think how to manage that data. Information should be sent only to one platform and exchange of information among all platforms should be ensured. This is legal issue.

Belgium, EC

Comment: a lot of money could be saved by coordination and synergies.

Belgium, GDF SUEZ

Comment: Art.28 should also define how data exchange between TSOs and demand facilities connected to the distribution system is done.
Answer (ENTSO-E): code should allow flexibility how to implement data exchange. It depends on development of communication and IT technologies. The main aim of the code is to define the scope of data.

UK, SSE Generation

Comment: users want to provide information only to one TSO or DSO by one format, but not to several entities by different formats. There is a need of IT system and communication links.

Belgium, Electrabel

Comment: required common document on definitions and common list of data exchange: format, sender, receiver, content, protocol, etc. What means harmonization and why data is needed should be explained in supporting paper.
Answer (ENTSO-E): organizational issues could be harmonized, but not fixing protocols, which are communication and IT topics and developing rapidly. They are matter of standardisation.

UK, SSE Generation

Comment: it is allowed after comitology to define other things later by TSOs and approve by NRAs. Hard figures should be in the code and approved by comitology.
Answer (ENTSO-E): operational security limits are defined according to characteristics of equipment, at each different timeframe taking into account grid topology (connected equipment), connected generation and demand by TSOs and approval by comitology doesn't have sense.

Belgium, GDF SUEZ

Comment: in RfG some things have to be approved by TSOs, but not in this code. Asking for common agreement of NRAs.

UK, SSE Generation

Comment: Art.3(1) and(2) are concerning efficiency. Where is social welfare? Much is used in RfG and DCC.

Austria, E-Control

General comment: more justification of technical choices, comparison of existing practices should be in supporting paper. When inertia is required (it is new) in the code, it should be well justified.

Spain, ENDESA

Question: in Art.8(12) voltage control and reactive power control are missing regarding redispatch (as in Art 10(9)). What about compensation of disconnection?
Answer (ENTSO-E): here are measures for system defence, but not redispatch. In this case there is no compensation.

Spain, ENDESA

Comment: in Art.10(9) grid users send to TSO redispatch costs and if black out happens the redispatch measures could be used from current run to 0.

UK, SSE Generation

Comment: emergency deenergization in GB is compensated. If TSO has a choice then it shall be compensated.
Answer (ENTSO-E): if it is ancillary service, it should be compensated.

Belgium, Electrabel

Question: Art.7(5) and Art.8(5) speak about frequency and voltage issues, but for voltage an agreement is needed, but not for frequency.
Answer (ENTSO-E): frequency issue is more detailed in LFC&R code, so OS code covers only voltage issues in details.

UK, SSE Generation

Comment: cost benefit analysis (CBA) should be done if there are new provisions. But TSO can change significance of the users. When CBA is then done? If there are no details here and will be defined later, then a process should be clear and when CBA is done also. The code should set a process if later new requirements come; CBA is done as it is done by RfG.
Answer (ENTSO-E): governance of this code is defined by FG. Significance of the grid users in this code is defined as influence on system performance and can change, e.g. if there is one solar panel it is not significant, if they make 50% of

total generation, they become significant. OS code allows TSOs to define significance and according to national legal provisions involve NRAs in this process. This could differ in different countries and depends on internal developments.

Belgium, Electrabel

Question: in Art.21 each type shall provide active and reactive power consumption. It should be specified for storage plants if it is consumption for storage or own consumption.
Answer (ENTSO-E): both.

Belgium, EDF Luminus

Question: in Supporting paper contingency described as making no cascading to the others. It is very flexible approach and it is strange that it has no influence on cross borders.
Answer (ENTSO-E): there is about responsibility not to propagate problems to the other, but not MWs or MVARs.

UK, SSE Generation

Question: what is dispute resolution process e.g. in Art.8(6), Art.11(16), Art.11(18) where something should be agreed among TSOs?
Answer (ENTSO-E): in Art.8(6) there is an interest of both parties, in Art.11(16) – lower value is approved, most stringent limit will apply, in Art.11(18) both parties are interested. In case two regulated companied do not agree then NRAs are involved, civil law, court.

UK, SSE Generation

Comment: DCC and RfG have dispute procedure on fundamental disagreement. It is dangerous TSOs and Generators going to European court. Dispute resolution should also be in OS code.
Answer (ENTSO-E): Art.3(3) solves many issues. Also general procedures for dispute procedures are set for compliance with the law.

UK, SSE Generation

Comment: Art.3(3) applies only in case if reference is made in the code. It is not universal for all code, so if it is not referred, no dispute resolution works. Asks for reference to Art.3(3) in Art.11(18).
Answer (ENTSO-E): DT asks to provide places where references to Art.3(3) is needed according to stakeholders.

Belgium, EDF Luminus

Question: in Art.20(1) and (2) data concerning frequency containing reserve in Belgium is provided only by power plans participating in frequency regulation. So the proposal is to refer only to generators which participate in frequency regulation in e.g. Art.20(1)(e) and (f), Art.20(2)(c) and (d). It is not clear a meaning of Art.21(6).
Answer (ENTSO-E): Art. 21(6) is for Ireland market, where generators cannot provide schedule.

Belgium, GDF SUEZ

Comment: concerning Art.21(6), it should not be formulated in general way if it is for individual market. Asks to specify country where provision applies, e.g in regions designated by Commission and/or ACER.

Belgium, GDF SUEZ

Comment: not clear how many common grid models exist. It should be a CGM, only one common grid model.
Answer (ENTSO-E): yes, one set for different timeframe, but different parts of the same set are used for different purposes.

Spain, Iberdrola

Comment: in Art.14(8) not clear the process of investigation.
Answer (ENTSO-E): during investigation TSOs e.g. shall prove that in case something happened its controllers are correctly configured and the service provider should prove that it responded well. Some examples will be in supporting paper.

Spain, Iberdrola

Question: is code establishing any investigation procedure?
Answer (ENTSO-E): no. This will be dealt in later documents, e.g. emergency code, incidents classification methodology, etc.

UK, SSE Generation

Comment: is NRA involved in investigation in Art.14? NRA shall be involved in investigation, not to have many investigations by different organizations.
Answer (ENTSO-E): investigation should be one involving experts from all parties. DT will not write more in the code now.

Belgium, Electrabel

Question: what mean virtual tie-line in Art.17(1)(g)? It has influence on cross borders, is it any kind of cross border allocation?
Answer (ENTSO-E): no. It is schedule within scheduling system. Supporting paper will describe this.

Conclusions

Tahir Kapetanovic summarized the issues discussed, thanked all the participants for active contributions, constructive discussion and many valuable suggestions and closed the 3rd Stakeholders' Workshop on the Operational Security Network Code, once again reminding to submit all comments to the public consultation tool, available on ENTSO-E webpage https://www.entsoe.eu/resources/consultations/ .