

Minutes of Meeting
Drafting Team on Demand Connection Code (DT DCC)
DSO Technical Expert Group (DSO TEG)

Date: 4 November 2011
Time: 09h00 – 16h00
Place: ENTSO-E, Brussels

Participants

| Name | Affiliation | present | excused |
|-----------------------|------------------------------------|---------|---------|
| <i>DT DCC</i> | | | |
| Gianluca Albanese | Terna | | X |
| Stephanie Bieth | RTE | X | |
| Anders Danell | SVK | X | |
| Roberto Gnudi | Terna | | X |
| Edwin Haesen | ENTSO-E | X | |
| Bastian Homburg | Amprion | X | |
| Kees Jansen | Tennet | X | |
| Klančnik Jurij | ELES | | X |
| Mikko Koskinen | Fingrid | X | |
| João Moreira | REN | X | |
| Mark Norton | EirGrid | X | |
| Sergio Pasero Ruiz | REE | | X |
| Dwayne Shane | National Grid | X | |
| Guillemette Smadja | Elia / LRG | | X |
| Helge Urdal | National Grid | X | |
| <i>DSO TEG</i> | | | |
| Alberto Ceretti | Eurelectric DSO/Enel Distribuzione | X | |
| Falk Engelmann | CEDEC/VKU | | X |
| Bruno Gouverneur | Eurelectric DSO/Synergrid | X | |
| Mike Kay | Geode/ENWL | X | |
| Tony Hearne | Eurelectric DSO/ESB Networks | | X |
| Riccardo Lama | Eurelectric DSO/Enel Distribuzione | X | |
| Johan Lundqvist | Geode/Svenskenergi | X | |
| Marc Malbrancke | CEDEC/Inter-Regies | | X |
| Pavla Mandatova | Eurelectric DSO | X | |
| Jacques Merley | Eurelectric DSO/ERDF | X | |
| Sylvia Michel | Geode/Svenskenergi | | X |
| Herman Poelman | CEDEC/Alliander | X | |
| Graeme Vincent | Eurelectric DSO/Scottish Power | X | |
| Walter Schaffer | Geode/Salzburgnetz | | X |
| Pierre Schlosser | Eurelectric DSO | | X |
| Siegfried Wanzek | Eurelectric DSO/E.ON-Energie | X | |

1. Welcome

Introduction of all participants

2. Agenda

09:00-09:05hrs Approve Agenda

09:05-09:30hrs Approve minutes from meeting 14th Sept 2011

09:30-10:30hrs Completion of previous discussion on drafted text:

- Compliance;
 - What is tested
 - How testing takes place
 - Stages of Compliance testing
- Derogation;
 - What it is
 - Whom it applies to
 - How it is applied
 - Exemptions
- Enforcement period
 - No longer than 3 years

10:30-10:45hrs Coffee break

10:45-12:30hrs Discussion on drafted text (continued):

- Frequency and voltage parameters;
- Requirements for protection devices;
- Requirements for reactive power;
- Load-frequency control related issues;
 - Low Frequency Disconnection
 - When this occurs
 - Why it is used
- Short-circuit current
- Disconnection/Islanding/Reconnection
 - Methods/Procedures
- Information/Data exchange
 - What is required
 - By whom
 - When
 - How it is provided

12:30-13:00hrs Lunch break

13:00-14:30hrs Principles discussion on:

- Balancing capabilities and provision of ancillary services;
- Equipment requirements at connection point;
- Instructions provide by TSO/DSO to user;
 - Manual/Auto
- How they are provided/received

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| 14:30-14:45hrs | Coffee break |
| 14:45-15:45hrs | Discussion on drafted text (continued): <ul style="list-style-type: none">• Frequency and voltage parameters;• Requirements for protection devices;• Requirements for reactive power;• Load-frequency control related issues;<ul style="list-style-type: none">○ Low Frequency Disconnection○ When this occurs○ Why it is used• Short-circuit current• Disconnection/Islanding/Reconnection<ul style="list-style-type: none">○ Methods/Procedures• Information/Data exchange<ul style="list-style-type: none">○ What is required○ By whom○ When○ How it is provided |
| 15:45-16:00hrs | Review and Set Actions |

3. Approval minutes Paris meeting (14/09/2011)

4. Discussion on drafted text

The latest draft text is gone through page by page for commenting and updates.

The definition of a Demand Unit is discussed. It is to be used as a condensed text in the code itself, there is no need to give a reason for defining something.

Page 6: The definition of Control Area for the moment refers to TSO. It needs to be checked with its use in the code (general remark for all definitions). It should also be checked if the term 'assets' is absolutely needed in the context of the code requirements.

LVDD definition with respect to 'low voltage event' should be clarified as it could be interpreted as referring to the LV grid. The ENTSO-E RG CE recommends in its defence plan to use LVDD and OLTC blocking

On the definition of Network Operator, the DSO TEG expresses a concern that it refers explicitly to an industrial customer's network. The DSO TEG believes it could be misleading since one can interpret that closed distribution networks (specific provision in the 3rd package) can be seen as distribution networks.

'main plant' for a New Demand unit needs to be better defined

New Distribution Network definition: No clear agreement whether the definition should be maintained due to different laws regarding distribution grid monopoly (e.g. GB versus France). Some argue that grids are only replaced; some argue that new grids can be built (e.g. when clearing a concession), or continuously as in GB where distribution is not a monopoly activity..

The use of 'low voltage' is replaced by 'reduced voltage' in the OLTC definition.

Definitions of Significant Demand and Generator Facilities are given. The DSO TEG refers to ACER's framework guidelines (FG) where it is stated that "the network code(s) shall specify the criteria and methodology for the definition of significant grid users" which the network code does not provide. The definition of significance in the FG should be followed in the NC.. The DT explains that in their view that if a requirement is in the code it indicates significance. If stakeholders have comments on this approach, they should contest it in a public consultation. The DT remarks that ToR were agreed in which the outline of the code to be developed is given. In addition a network code (law) cannot provide the reasoning for setting criteria. Descriptive definitions for types of users (cfr. generator code) are possible. The DT informed that currently 2 teams in ENTSO-E are working on additional documents which should demonstrate the "why" and "what" to the stakeholders (a set of FAQs and an explanatory note) regarding the NC RfG. DSO TEG DSO TEG.

The DSO TEG questions the relevance of the definition of Unregulated System Operator and asks if it can be changed by Closed Distribution System Operator. Final review of the code will be needed to see if and how it is used throughout the code eventually.

The DSO TEG asks for confirmation that the code will apply to TSOs in case they ask for connection of a Substation of theirs to the HV network owned by a DSO, being that simply the reciprocal case. This needs to be looked into further.

Both the DT and the DSO TEG agree that the code cannot set a requirement for a distribution system as a whole, only for individual customers or for the connection point.

The question is again raised why demand and generation are strictly split in two codes and considering the fact that more and more demand users integrate production units, also on distribution level and flows at DSO-TSO interconnection point are becoming more and more bi-directional. DSO TEG expresses its concern with unclear overlaps between the two codes. The DT states that the situation remains similar to TSO connected industrial customers who also need to comply with two network codes

5. Principles discussion

See slides.

The agreed ToR lists several types of requirements in the scope of this code. The principles based on which these are to be drafted are discussed.

The draft requirements will be prepared by the next meeting for discussion.

Balancing capabilities and provision of ancillary services

The DSO TEG state that except for frequency issues and for very large customers, these topics should be dealt with within national systems as they have no cross-border impact.

The DSO TEG argues that requirements on reactive power at the DSO/TSO interface should be kept at general principles. Requirements for small units should be coordinated with the DSO who transmits instructions.

According to the DSO TEG the demand code is too detailed and more should be left to the national level. The DT points out that stakeholders have different views on this; some strive for much more European harmonization. A

correct balance needs to be found. DSO TEG states that safe operation of the distribution grid is of overriding importance and should be adequately evaluated in this “balance”

The DT has proposed a list of eight services in the context of ‘balancing capabilities and provision of ancillary services’. The DT stresses that these requirements only concern capabilities, not who operates or why it should be operated. The DSO TEG questions why these requirements are set per demand unit and not on the TSO/DSO interface with a DSO controlling the individual demand units connected at distribution level as a possible structure.

The DSO TEG asks if and what are the intentions for implementation of these requirements for example if it would also include home appliances, e.g. frequency regulation by fridges, etc... Such proposals are being discussed in several forums. Regulators will require justification for this. The DT mentions that if a requirement is not requested by the framework guideline a full CBA must be given.

Equipment requirements at connection point

The DT proposes to not include a separate section on this topic. The DSO TEG agrees.

Instructions provide by TSO/DSO to user

The DSO TEG requests a clear definition on response time and time stamps. DSO TEG reminds that in case of human request (e.g. by phone) made by a TSO to a DSO or a HV customer no response time can be defined unless TSO’s conversations are recorded and they can eventually be listened afterwards..

The DSO TEG proposes to leave requirements on this topic general, unless urgent issues exist.

The DSO TEG asks why DSOs are more implicated in this code (with specific requirements) than in the generator code (where they are only mentioned as Relevant Network Operator). The DT refers to ACER’s framework guidelines where it is explicitly mentioned that equipment at the connection point of distribution networks has to comply with a set of minimal requirements.

The DSO TEG expresses a concern over the necessity of a regular maintenance process of the code (to be addressed in the code itself). Seen from experience with existing grid connection rules amendments will be inevitable in a number of years, perhaps even before the code applies.

6. Discussion on drafted text (continued)

The DT clarifies that the table on frequency ranges does not require a demand to maintain these frequency ranges, but sets the capabilities to withstand deviations within these ranges; automatic disconnection is allowed. The article also states that other frequencies can be required by the Relevant Network Operator if the grid situation requires this..The DSO TEG asks if the capability to withstand overfrequency should be made mandatory. This will be further discussed.

The DSO TEG states that setting a capability for keeping the reactive power exchange in a range of power factor 0.9 leading/lagging can involve a high cost. If these values do not respond to existing contracts, compensation should be given.

The DT clarifies that the capability to maintain OMVAr does not implicate that OMVAr should be kept at all times; it would be tested by simulations if the adequate measures are taken to allow for OMVAr flow. The paragraph will be adapted to avoid confusion.

7. Next steps

Both the DSO TEG and the DT agree that the planned dates of 29 November and 7 December will be needed in order to follow the set planning. Invitations are already sent out.

29 November 2011: Arnhem

7 December 2011: Düsseldorf