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Comments on Draft Guidelines for Good Practice on Electricity Grid Connection and Access - An ERGEG Public Consultation Paper

Author:	Benoît Bletterie, arsenal research
email:	benoit.bletterie@arsenal.ac.at
further authors:	Thomas Degner, Dominik Geibel, Gunter Arnold, Wolfram Heckmann, Philipp Strauß, ISET Per Bromand Nørgård, RISOE

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The DERlab group welcomes the EREG initiative of drafting Guideline for Good Practise on Electricity Grid Connection and Access.
The DERlab group has been involved in various standardisation initiatives at national, CENELEC and IEC level trying to harmonise the different connection rules applied in the European Union. One of the outcome of the DERlab group on standardisation was the so-called EDIS "European Standard for interconnection of Distributed Energy Resources". The report is available at http://www.der-lab.net/dokumente/D2.1_Rev7f_PU.pdf

Answer to the questions of chapter 1.2 (page 10):

- Do you agree with the problems these GGP are trying to solve – are there other problems that should be addressed within grid connection and access not yet included in these guidelines?

Yes, this GGP points the relevant issues which need to be covered in this field. The question of the responsibility share is crucial, in particular how to pass TSO requirements to users connected to the DSO system (chapter 2, page11: *Within that scope, it must be ensured that the TSOs, each being responsible for their control area, also have the responsibility for the definition and implementation of specific provisions which must be met by the grid users at the transmission level and which must also be duly followed by all other grid users*).
Current connection rules for network users connected to the distribution network do not really contain requirements for the TSO. In some cases, DSO may not be keen on passing requirements from TSO due to the changes they may imply in the way the distribution network is operated. The way to pass the requirements from the TSO to the DSO therefore deserves a great attention.
The Guideline is very much linked to the present architecture and organisation of the power systems, and is therefore little robust to possible developments of the architecture or organisation of the power systems towards more decentralised generation and control. One concrete example is the Guideline's division into either generation unit or consumption unit. In the future, a power unit connected to the public power system may be a combination or a mix – e.g. a household including PV, an electrical vehicle (operating as vehicle-to-grid) or a micro CHP unit.

- Do these guidelines address the problem - will they lead to more transparent, effective and non-discriminatory grid connection and access?

This guideline would be a first step toward more transparency for all the players.
However, the recommendations are very vague; numbers are rarely provided (e.g. deadlines for answering an interconnection request…).

- Please outline your views on the description of the roles and responsibilities set out in Section 3.

The general frame proposed in section 3 seems adequate.
It is a very positive step to introduce common connection procedures specifying for example the information that must be exchanged, the deadlines for providing the information and a connection proposition.
The question of the practical implementation and the level still needs to be addressed.
To 3.2.4: If the regulators have the power to settle disputes, how is it ensured they are independent e.g. from politics. Settlement of disputes could be done by courts referring to standards and independent experts if necessary.
To 3.3.1 and 3.4.1: Requirements for the consultation process and the involved stakeholders need to be defined.
To 3.3.4 and 3.4.4: The set up of an independent arbitrative board would be helpful

- Are the technical framework and general provisions for generation, consumption and DSOs relevant and practical? Is there anything else that should be included / excluded? (Sections 4&5)

See the comments below.

- How would the implementation of these GGP affect your business / market – what would the impacts be?

In the short term, no changes are to be expected until the GGP is implemented by each country. After a successful implementation, manufacturers of components (e.g. wind or PV generators) will be able to sell similar products in the whole EU. A further decrease of costs can therefore be expected.
Even within one country, there are differences between DNOs (e.g. on the connection procedure).

- We note that respondents to the consultation on the Implementation of the 3rd Package asked for certain areas, such as priority access for renewables, to be dealt with by ERGEG GGP. Priority access has not been covered by these particular guidelines, however, regulators welcome further input on this and other relevant issues.

Agree.

Comments on the draft Ref: E08-ENM-09-03 from 11.03.2009:

Paragraph	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change
-	General	How will it be possible to ensure that this guideline will be followed by the different countries? In some countries, the connection procedure and the technical connection rules are not set by the regulator…	
Background	General	The background only mentions “critical situations and large disturbances” as justification for the need for uniform grid connection and access rules. Such critical situations are very important, but the use of uniform rules shall benefit all the players also in “normal” situations by allowing an efficient and economical planning and operation of the network. The use of uniform connection and access rules shall also benefit to the industry by allowing the use of standardise products in various countries. This way, substantial savings can be expected.	Mention the benefits also in “normal” situations and the benefits or having a uniform set of connection and access rules for the industry.
-	General	Some of the issues are already reality (usual procedure or requirements), some are rather new (only applied in a few countries) and some further far from implementation.	XX
	General	Some of the definitions deviate from usual definitions (e.g. IEC definition for “load shedding”) Other definitions should be added (e.g. distribution and transmission network, distributed generation from the CIGRE or IEA definition)	International definitions (e.g. IEC) shall be used when existing.
3.5.3	Technical	The reader could understand from this chapter that all the generator units must provide the system operator with real-time measurements. This might be necessary for larger units only.	
4.3.2	Technical	The term “significant generation” shall be defined even if it is probably difficult to specify a power limit.	
4.1.1	General	The requirements of a “proper” consultation and the stakeholders to be involved should be defined.	
4.2.3	General	An independent arbitrative board should be considered.	
4.4.1	Technical	This chapter is not clear. Is the limitation of the injected power due to network congestion meant? If yes, the GGP shall also mention that suitable and transparent methods for estimating the extend of the limitation shall be used.	

Paragraph	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change
5.1.1	Technical	Investigations concerning the European disturbance in 4th November 2006 have shown that already today it is of high importance to harmonise the upper and lower frequency limits of distributed generators in the medium and low voltage distribution grid: The majority of distributed generators should not switch off above 47.5 Hz, if possible. The contribution of such distributed generation is strongly increasing and even today above 10 GW rated capacity.	
5.1.2.3	Technical	Last point (4) "*Withstand voltage for specified time period under given frequency (according to the applicable standard*" is not clear.	
5.2.1.2	Technical	This point is not suitable for all generators (e.g. inverter-based generation units). Such a requirement results in a high contribution to short-circuit currents and may, in some cases, pose some problems.	This should therefore be individually specified.
5.2.1.7	Technical	The generation unit and its control system shall be designed so that the unit will not be tripped due to the transient frequency or voltage gradient occurring in the case of a short-circuit in the network to which the unit is connected. The extent of these gradients shall be defined by the TSO.	Using same gradients could improve situation of manufacturers not to develop different gradients for each country or TSO Behaviour during fault is not described (injection of short-circuit current etc.) or just stay connected? Which units are concerned? All units? Reasonable especially for Low Voltage applications?
5.2.1.8	Technical	This point is not suitable for all generators (only for rotating machines). Is the issue of out of phase reclosing covered under this point?	Remove the word "mechanical".
5.2.2	Technical	The issue of Interference and Electromagnetic Perturbations / Emissions is only mentioned for consumption units (not for generation units)	This issue should be added (new point 5.2.2) in chapter 5.2
5.2.2.2	Technical	Why shall other forms of control have lower priority than the local voltage control?	
5.2.4	Technical	This chapter is not clear. Is it really needed?	Remove this chapter.
5.2.5.5	Technical	Requiring generation units to maintain islands is not acceptable if special provisions are not taken (fault detection, resynchronisation)	
5.2.6.1	Technical	The approval of the electrical behaviour should be done during the planning phase to the greatest possible extend. Type test shall be preferred when possible and suitable.	Amend the text accordingly.
5.3.1.1	General	Consumption units could also contribute to voltage and frequency control. Related equipment should be requested where appropriate.	

Paragraph	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change
5.4.3.3 and 5.4.3.4	Technical	Load shedding plans have to account for active parts in the distribution networks. Load and generation has to be estimated. The possible change of the generation related to the time of the day and the year has to be considered when distributed generation and renewables are involved.	