EnBW
Energie Baden-Württemberg AG

EnBW Energie Baden-Württemberg AG · D-76180 Karlsruhe · Germany

Per email: fg_pilot_electricity@ergeg.org

Mrs Fay Geitona
CEER Secretary General
28 rue le Titien
1000 Bruxelles
Belgium

Durlacher Allee 93
D-76131 Karlsruhe
Germany
Phone +49 721 63-06
Fax +49 721 63-12725
www.enbw.com

Registered Office: Karlsruhe
Amtsgericht Mannheim
HRB 107956
Tax no. 35001/01075

Name Dr. Eckart Ehlers
Department Regulatory Compliance (HOL ONC)
Phone +49 721 63-23484
Fax +49 721 63-13816
Email e.ehlers@enbw.com

ERGEG consultation on Pilot Framework Guidelines on Electricity Grid Connection (# E09-ENM-18-04)

24 September 2010

Dear Ladies and Gentlemen, dear Mrs Geitona,

EnBW welcomes the opportunity to comment on ERGEG's consultation on its draft "Pilot Framework Guidelines on Electricity Grid Connection".

Before answering the consultation questions, we would like to comment more generally.

ERGEG's Initial Impact Assessment highlights that framework guidelines and network codes shall after all focus primarily on cross-border market integration issues. However, unless cross-border is more clearly defined this focus appears to be too narrow since the connection to electricity grids in the Member States is also of great importance.

Germany can serve as an example in this context: we may probably have up to 18 GW of installed photovoltaic generation by the end of 2010, mainly connected to the low voltage grid. According to current DC/AC-converter standards each converter must be disconnected from the grid when the synchronous frequency exceeds 50.2 Hertz. Assuming that 50.2 Hertz is reached on a sunny day at noon and all DC/AC-converters are disconnected, this would have a huge impact on the whole European network. So even the standard for a 1 kW DC/AC-converter has a remarkable influence on cross-border security of supply.

Even if it is implied that any generation including intermittent generation falls under the requirements of the Grid Connection Framework Guidelines, we consider it important to explicitly mention that wind generation and photovoltaic are also included.

The European 20-20-20 energy and climate targets, particularly the enormous increase of renewable generation will have a huge impact on both transmission and distribution networks. The balancing of the networks to bring generation and consumption into equilibrium becomes an ever growing challenge not only for TSOs but also for DSOs, which have to deal with local and regional reverse load flow conditions, voltage problems and grid overload. For both types of operators the management of the system in a secure and cost efficient manner becomes an increasingly complex task.

A paradigm shift in the sense that load follows generation is inevitable. As stated in Objective #1, the requirements of network codes must be complied with by all grid users. Thus, consumers also need to be taken into account, in particular when considering that it is the consumers who have to pay for the costs of the networks. Most of the specific network costs occur on medium and low voltage grid levels.

To ensure secure network operation whilst maintaining the quality standards, a coordinated network-related load management with incentives for grid users appears indispensable. Such load management however requires a real time communication system between the distribution networks (to which it should be an integral part) and the grid users.

When designing connection requirements for grid users (consumers, generators and prosumers) there is also the need to consider future communications with end users as a general means for network operators to be able to operate the networks effectively.

Connecting grid users to the grid and the communication network of the network operator must go hand in hand because the connection to the grid is strongly related to network investment, in particular in the medium and low voltage networks. In the future, a communication network is required, which enables the regulation of consumption following the just mentioned paradigm shift towards load following generation (in particular from renewable energy sources).

Question 1: Are there additional major problem areas or further policy issues that should be addressed within the Grid Connection Framework Guideline?

Please refer to our introductory comments above.

Question 2: What timescale is needed to implement the provisions after the network code is adopted? Is 12 months appropriate or should it be shorter or longer?

For existing connections, sufficient time is needed in order to assess the impact of the new requirements, to plan and to apply the necessary adaptations. Three years might be enough but the exact determination of the transition period depends on the kind of generation and load connected, on security of supply issues and on the costs of adapting existing connections.

New grid connections probably require a transition period of about 12 months after the grid code is published. Generally, the transition period should be as short as possible.

Once the transmission period is finished, the grid code shall immediately be binding for all new grid connections.

Question 3: Should harmonization of identified issues be across the EU or, perhaps as an interim, by synchronous area?

As far a possible, across the EU.

Question 4: Should the requirements apply to existing grid users? How should it be decided? To which existing users should the requirements apply? How should timelines for transitional periods be set? Who should bear any costs of compliance?

As is clearly set out in the Initial Impact Assessment, security of supply and system reliability is endangered without sufficient coordination and common requirements for the Member States electricity networks which become increasingly interconnected. Therefore, the connection grid code must be applicable to all grid users, including existing grid users. As regards the transitional periods and the other issues relevant in this context, see Question 2 above.

Question 5: The framework guideline identifies intermittent generation, distributed generation and responsive demand as requiring specific grid connection guidelines. Is it appropriate to target these different grid users? How should the requirements for intermittent generation, distributed generation and responsive demand differ from the minimum requirements? Is there a need for more detailed definition / differentiation of grid users?

The grid connection code concerns all grid users. It is however relevant to emphasize that special requirements are needed for intermittent generation such as wind and photovoltaic due to their enormous impact on the whole electrical system.

It is similarly important to integrate all con- and prosumers in a communication network that allows for a network-related load management and which is to be achieved by incentives, contractual arrangements and the likes.

Question 6: Is it necessary to be more specific regarding verification, compliance and reinforcement?

It is not necessary to be more specific with respect to verification, compliance and reinforcement. The necessary details as regards the connection method and process are to be settled case by case by between operators and grid users.

Question 7: What are the key benefits and types of costs (possibly with quantification from your view) of compliance with these requirements?

New patterns of generation such as intermittent and distributed generation have a great impact on the operation of electricity grids. Therefore and as indicated in the Initial Impact Assessment, the key benefits are to ensure the secure operation of the increasingly interconnected electricity system and to reduce the risk of black-out such as on 4 November 2006.

Question 8: How should significant generation and consumption units be defined?

Generation and consumption units are significant when local or regional network problems or network balancing problems occur. It is the network operator who should be entitled to find technical and economical solutions together with everybody else involved.

Question 9: For what real-time information is it essential to improve provisioning between grid users and system operators? Do you envisage any problems such greater transparency? What are the costs (or types of costs) and benefits you would see associated with this?

Basically, the connection of grid users to the network also requires their connection to a communication system in order to operate the electricity system securely and cost efficiently at all levels. The provision of such a communication system becomes increasingly important considering the need to integrate an ever growing amount of renewable energy sources and intermittent generation.

EnBW hopes that its comments contribute to ERGEG's consultation on its draft "Pilot Framework Guidelines on Electricity Grid Connection".

We remain at your disposal should you have any further enquiries.

Kind regards.

Yours sincerely

EnBW Energie Baden-Württemberg AG

i. A. Dr. Eckart Ehlers