

# **BDEW - position on ERGEG – public consultation paper „Draft Guidelines for Good Practice on Electricity Grid Connection and Access”**

Berlin, June 02<sup>th</sup>, 2009

## 1 Introduction

The German Association of Energy and Water Industries (Bundesverband der Energie- und Wasserwirtschaft – BDEW) represents the interests of approximately 1,800 companies. The spectrum of its members ranges from local and municipal to regional and international companies. They represent about 90 percent of electricity sales, more than 60 percent of local and district heat supply, 90 percent of natural gas sales as well as 80 percent of drinking water abstraction and 60 percent of wastewater disposal in Germany.

BDEW welcomes the opportunity to comment grid access and connection approaches throughout the EU electricity grids. BDEW would like to point out however that the need for any harmonisation in this field is not immediate. Recent problems in the electric system cannot be attributed to a lack of harmonisation in grid access and connection rules. For these reasons we recommend that the principle of subsidiarity is applied and any harmonisation regarding the grid access and connection is scrutinised thoroughly with the focus whether different rules set by different national regulators really pose a problem. Harmonisation should be pursued with a clear focus on the benefits.

It should be kept in mind, that this framework guideline gives general rules. More detailed rules should be reserved for the technical codes which will be consulted according to the provisions of the third energy package.

European energy regulators have analysed the needs and draft key concepts for common grid access and connection approaches throughout the EU electricity grids in their 2008 work programme. Our position paper seeks to initiate discussion on ERGEG's input to the draft Framework Guidelines. It is intended to serve as a background paper in drafting input, which may be utilised in the development of the Framework Guidelines for the network codes by the Agency for Cooperation of Energy Regulators. The future Framework Guidelines are delivering principles upon which respective codes for grid connection and access will be developed by TSOs and consulted and arranged with the DSOs.

BDEW recognises the vital importance of grid access and connection approaches throughout the EU electricity grids. Over many years, experts of BDEW member companies have participated together with grid users in the process of developing Grid Codes in Germany (TransmissionCode<sup>1</sup> and DistributionCode<sup>2</sup>). BDEW recognises the need for continuous improvement and the specific role that regulators have in representing the interests of network user, while ensuring the financial sustainability of network operators.

Below we take the opportunity to comment on some details which are already part of the draft guidelines.

---

<sup>1</sup> TransmissionCode: network and system rules of the German transmission system operators

<sup>2</sup> DistributionCode: network and system rules of the German distribution system operators

## 2 General remarks

The document seeks to initiate discussion on ERGEG input on framework guidelines for grid connection and access as part of framework guidelines for network codes to be developed by ACER after its constitution. The aim is to standardize and harmonize rules and approaches for grid connection and access within the EU electricity grids. These rules shall be developed by the system operators, their related associations (in Germany represented by BDEW) and as far as the transmission grid is concerned ENTSO-E with guidance given by the framework set up by ACER.

The ERGEG draft provides an overview on the relevant requirements to be set up and respectively to be considered by the different stakeholders to contribute to a secure operation of power transmission and distribution grids. The paper provides a general approach to the relevant issues and delegates the responsibilities and the detailed definitions and execution to the involved parties.

Most of the issues addressed in the consultation paper are already part of national legislation and grid codes. For Germany, there seems to be no need for further guidelines. Thus, the main challenge will be to harmonize them within the EU market frame to have an EU-wide applicable set of guidelines. It should be noted that the degree of desired harmonisation should be coherent with the impact of a certain requirement on the transmission and distribution system security. For those requirements that will have system-wide impact (e. g. frequency criteria) the highest level of harmonisation should be ensured (e. g. common threshold values). For requirements with regional/local impact a standardisation of methods and principles seems to be sufficient. Single values and parameters may vary and it is necessary to have different values to be able to consider regional specifics (subsidiarity needs).

From a national point of view, in Germany the guidelines seem to fit well into the national legislative and regulatory framework and will not have any adverse impact on the network operator's good practice and business.

It is subject to the further review of the consultation paper whether the questions related to grid connection and access are addressed comprehensively in the current draft and whether additional requirements or procedures should be included. In individual cases also modifications of the definitions may be necessary for correction and improvement purpose.

BDEW would like to underline that there is a clear need for close cooperation between TSOs and DSOs given by the growing importance of both distributed generation and smart grids. The connection of small scale generation units to the grid might provide a potential threat to the grid security but at the same time will provide more options to the DSO to balance their area on a low voltage level thereby reducing stress on TSO level. BDEW therefore sees exchange of information paramount so that TSOs and DSOs are better equipped to maintain a reliable and stable system.

The sustainability of the electricity supply is reliant, in part, on the successful implementation of renewable energy generation facilities. Each of these renewable energy systems has different characteristics in terms of availability of the supply source, such as wind, solar, biomass or hydro.

In order to manage a diversified energy portfolio, grid access procedures must be established that accommodate the diverse energy supply envisioned.

However, the guideline is an intensification and enlargement of the current regulation to the DSOs. On principle, the guideline transfer existing approaches from the German Ordinance on the connection of power stations<sup>3</sup> (here only for generation units > 100 MW with a net access level of bigger as or equal to 110 kV) to “significant generation units” also smaller than 100 MW and with a net access level smaller than 110 kV. Beyond that, the guideline is not only valid for generation units but also for “significant consuming customers”. Furthermore, the ex ante approval for access rules by the regulators means combined with a consultation process an increasing effort for the net operators. In some areas, there is a lack of commercial policies in combination with the commitment of rights and duties for net operators as well as net customers identified. The guideline includes intensifications with the effect of an increasing effort for DSO network operators.

Long-term grid expansion strategy to accommodate more distributed generation may be needed. A two-fold strategy, including supply management and capacity expansion in regions with high generation potential can be one option.

### **3 Specific issues related to the scope and applicability of the document**

#### **3.1 Problems to solve**

BDEW acknowledges the efforts that ERGEG have already made in opening questions on grid connection and access conditions that should apply to all the grid users of transmission and distribution grids. By this the guidelines implement a framework to improve the security of supply, but also will strengthen the customers. European or national existing rules and standards have to be considered.

BDEW does not agree with the problems arisen in this document that GGP are trying to solve, as far as the need for such guidelines is caused by the recent disturbances of grids.

#### **3.2 Address the problems**

Harmonisation standardisation and interoperability should have regard to the economic and technical limitations of each network, e.g. in Europe frequency deviations will be slight so equipment would only need to cope with small variations, whereas in some countries frequency deviations can be much larger. Harmonisation which only required equipment to cope with small frequency deviations would be impractical.

With regards to European and international standards existing procedures should be applied or adapted using existing structures (CENELEC, IEC, etc.).

---

<sup>3</sup> German abbreviation: “KraftNAV”

It is also important considering the practicability and benefits of Guideline measures, while some lead to greater transparency, but these can be also related with higher costs.

### 3.3 Description of roles and responsibilities (section 3)

- **Par. 3.2.1:** A fixing or approving of methodologies used to calculate or establish the terms and conditions for connection and access to the grids by the national regulator leads to high bureaucratic costs. The regulator should only monitor the terms and conditions developed and established by the grid operators. Further on they should monitor the non-discrimination of grid users, the control of the networks and approval of grid operator applications.
- **Par. 3.3.1 and 3.4.1:** Network operators have to be able to establish the conditions for the net connection and net access. There has to be an organised consultation process of network operators with the affected market participants. Both facts illustrate a fundamental tightening to the existing policies.
- **Par 3.4.1:** According to Section 19 of the German Energy Industry Act (German abbreviation: EnWG), operators of electricity supply networks within the Member State Germany are required to determine, and publish on the Internet, technical minimum standards for network connections, taking account of the conditions under Section 17 EnWG. General conditions concerning the low-voltage level are laid down in the Ordinance on low-voltage connection (German abbreviation: NAV). The network connection of plants for the generation of electrical energy with a rated output from 100 MW upwards is governed by the “KraftNAV”. Relevant technical standards are elaborated by the German Association for Electrical, Electronic and Information Technologies (Verband der Elektrotechnik Elektronik Informationstechnik e. V. – VDE). These standards are considered acknowledged rules of technology. Further technical requirements are defined, inter alia, by the Technical Connection Conditions. Pursuant to Section 4, paragraph 3 NAV, these are only communicated to the regulation authority. We consider that the additional ex ante approval of the terms and conditions for grid connection and access by the national regulator proposed under item 3.4.1 of the Consultation Paper for distribution system operators is neither expedient nor necessary. Furthermore, within Germany sufficient transparency is already ensured today through the obligation to publish according to Section 19 EnWG.
- **Par. 3.4.3.:** The time lines and time limits are being defined due the policies of the road map of “KraftNAV”.
- **Par. 3.4.4.:** Obligation to surveillance by the grid operators: This constitutes a tightening compared to the actual situation and may lead to taking over the responsibility indirectly and raise the operators cost. The grid operators need the right to control that users meet the requirements for grid connection an access.
- **Par. 3.5.4:** This constitutes a tightening at the expense of the generation units – so far it has been stipulated by contract.

- **Par. 3.6.3:** Due to possible effects on measurement it is unclear which consumer is affected.

### 3.4 General provisions and technical framework (section 4 & 5)

- **Par. 4.1.1.:** The connection procedures shall be elaborated and / or approved by the regulators as part of the terms and conditions for connection and access to the grid (**consideration of stakeholder interests is necessary**). ~~These terms and conditions shall enter into force only after proper consultation with stakeholders.~~

This paragraph is understood as general guideline which shall serve the goal to define a timeline within which network operators and generators have to play certain roles. The connection method itself is processed by the regulator or the regulator has to agree first – Such a strong regulation exists so far only in the framework of the “KraftNAV”.

- **Par. 4.1.4.:** Connection procedures shall not lead to undue connection delays, **as far as the TSO/DSO can avoid the delay**. The TSO and / or DSO have to be transparent about the connection time schedules to those requesting the connection. Any delay and reasons for it have to be transparently communicated to those requesting the grid connection. The solutions to overcome the delays in grid connection access shall be jointly agreed between the TSO and / or DSO and the grid user.

The time period for the connection procedures depends on external factors (e.g. authorities).

- **Par. 4.1.5:** Similar to the “KraftNAV”, network operators have to publish in advance the needed information to establish a net access increasing complexity and expenses.
- **Par, 4.3.3:** The topic has to be regarded critically due to the fact that this policy may activate grid operation investments.
- **Par. 5.4.4.1.:** The TSOs of a synchronous area among themselves and with the DSOs shall exchange all ~~necessary~~ information and data **necessary for operational security**, especially relating to distributed generation. **If necessary** the TSO shall define clearly and transparently ~~the necessary~~ information **required**, including real-time data, and agree with the DSOs (and distributed generation) ~~how this~~ **the scope of** information **and how it** will be exchanged. When appropriate, the DSOs shall ensure that the significant distribution generation units receive and execute the instructions sent by the TSOs.

In Germany, the TransmissionCode is applied. Therefore, further general specifications especially regarding provision of real-time data is not necessary.

### 3.5 Implementation of these GGP

European or national existing rules and standards have to be considered. As a final remark, it can be said the guideline described includes tightening with the effect of bigger efforts and costs for the DSO network operators.

#### **4 Reply on the specific consultation questions:**

**Question 1: 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?**

The proposed arrangements are in our point of view a good basis to start the implementation of the 3rd Package. Like already stated at the workshop taken place on the 15<sup>th</sup> of May 2009 in Brussels, the draft Guidelines for Good Practice on Electricity Grid Connection and Access focuses mainly on the roles and responsibility of TSOs, especially regarding the terms and conditions for grid connection and access to the/their network set by the TSOs and that have to be implemented and regarded by the DSOs afterwards.

Regarding the development of the technical framework we think it is very important to involve both the TSOs as well as the DSOs. To implement a functioning and harmonised European energy market there is also a need to involve the DSOs as they are the important stakeholders in all the grid-issues. In the GGP it is stated under cipher 5.4.1.2 that the DSO has the responsibility for transposing the requirements set by the TSO and that they have to ensure that generation and consumption units (and also other distribution networks connected) within the distribution network meet these requirements. But when developing the technical framework by the TSOs it has to make sure, that there is an extensive, open and transparent consultation process in an early stage with all the market participants and it has to make sure as well, that indeed all the relevant market participants are involved in the developing process of relevant methods, procedures and technical requirements. In our point of view it is very important, that the technical frameworks developed by the TSOs are in a very early state coordinated with the DSOs in case that the requirements could affect their issues in any way.

The involvement of the relevant stakeholders, especially the DSOs is important, because at the moment there is a lack of efficient control in developing and implementing the frameworks set out by the TSOs. Only harmonised frameworks supported by all stakeholders (especially the DSOs) can assure a competitive and functioning European energy market.

**Question 2: Do these guidelines address the problem - will they lead to more transparent, effective and non-discriminatory grid connection and access?**

No comment.

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

BDEW underlines the role and the responsibility of the TSOs related to the development of the terms and conditions for grid connection and access to their grid. But it is very important -- as outlined already in our answer to Question 1 -- that all the relevant stakeholders, especially the affected DSOs are consulted and involved adequately before.

Under cipher 3.4 it is stated that the DSOs shall set the terms and conditions for grid connection and access to their networks for ex-ante approval by the national regulators and shall enclose where appropriate, the results of the consultation of the stakeholders. We think, that it is not practical, that a consultation process is accomplished by the DSOs. We find it more effective, if the regulation authority accomplishes the consultation process if needed and if other stakeholders than only the system operators are affected. The process that is currently applied, namely that the regulatory authority approves the terms and conditions set out by the DSOs (like for example the so called “Agreement about the cooperation according Section 20 par. 1 Energy Law between in Germany located gas grid operators”) is efficient and sufficient to cover the interests of the relevant stakeholders. In case of necessary consultations they should be operated by the regulatory authorities and not by the DSOs.

**Question 4: 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).**

The technical framework for grid connection in section 5 is in our point of view problematic, because it interferes strongly in the existing and functioning system of engineering standards. This will cause many competence problems, especially in regard to cipher 5.1.2.3 and 5.1.2.4.

Further it is proposed e.g. under cipher 5.1.1.3 and 5.1.2.2. that the grid users shall have the possibility of co-determination. This will cause a huge effort of coordination. In this regard we refer to our reply under cipher 3.

BDEW can not support the requirements for Reactive Power like stated under cipher 5.3.2. This requirement should be deleted, because a general obligation of compensation of Reactive Power is not purposeful. The TSO/DSO should instead have the possibility to provide a statement of requirements for Reactive Power and for their steering, like stated under cipher 5.3.2.3.

**Question 5: How would the implementation of these GGP affect your business / market – what would the impacts be?**

No comments.

**Question 6: We note that respondents to the consultation on the Implementation of the 3<sup>rd</sup> 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.**

Priority access for Renewables is important for the development of a sustainable and secure energy market. But the development of a sustainable and secure energy market via Renew-

ables, combined heat and power and smart grids can only be achieved by involving the DSOs next to the TSOs. In the BDEW's point of view the main aspect is the modernisation of the grids in relation to new forms of energy generation and energy use. Therefore the EU should boost and implement related projects in Research and Development and create incentives for the necessary investments. Research and Development should focus on a secure and sustainable energy supply. This can only be achieved by a stronger integration of peripheral generation of Renewables and combined heat and power via smart grids. Only then the EU can minimize the dependency of energy imports, explore in an optimal manner the own resources and reduce the CO<sub>2</sub>-emissions. Research and Development should concentrate on technologies that afford the according development of the networks. Special interest should focus on steering and storage technologies, that assure in terms of high energy generation (e.g. wind power) and low energy consumption the stability of the grid. In equal measure too much regulation, that endanger investments in grids and therefore in security of supply by the ACER or the national regulation authorities has to be avoided.

A further main problem that has shown up in the development of Renewables is the planning and permission process of network expansion and development of energy generation, especially the well known not-in-my-backyard-effect that hinder many projects. To support the development of Renewables the EU could contribute to raise the awareness of the European citizens for the necessity of network expansion to achieve the goals of the 20-20-20-targets.

Regarding solar and wind power station BDEW face further problems: Solar and wind power stations are located typically not in the regions where the energy is needed. For the economic and ecologic use of the resources it is necessary to support the network expansion wider than the European frontiers, e.g. the planned Mediterranean and Baltic Sea interconnection.

The realisation of offshore wind power generation faces actually a lot of obstacles.

- Order of components: Especially the practice of some system operators to give a covenant for grid access only against the firm order of all essential components of the wind power generation as well of a financial acceptance is a serious obstacle in the realisation process. To facilitate the grid access process the firm order of one of the essential components should be sufficient and that the firm order of the remaining essential components should be just in the stadium of advanced negotiation. In our point of view already the firm order of one essential component documents the maturity of the project and the will of the investors to realize it regarding that already for one essential component money in a double-digit amount of millions has to be raised.
- Financing: To start the grid access for offshore wind power generation at the moment there is needed a covenant of financing terms of the financing banks. In terms of financial crisis this faces a lot of obstacles in the early stage of the project. In our point of view should a feasible financing concept be sufficient to start the grid access for wind power stations.

## **5 Conclusion**

BDEW recognises the vital importance of grid access and connection approaches throughout the EU electricity grids. BDEW recognises the need for continuous improvement and the specific role that regulators have in representing the interests of grid users, while ensuring the financial sustainability of network operators.

A good start has been made by the European Regulators in the approach taken by addressing grid access and connection approaches throughout the EU electricity grids and in seeking further information from interested parties.