



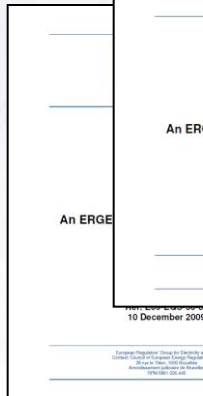
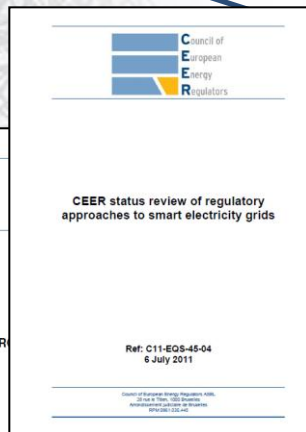
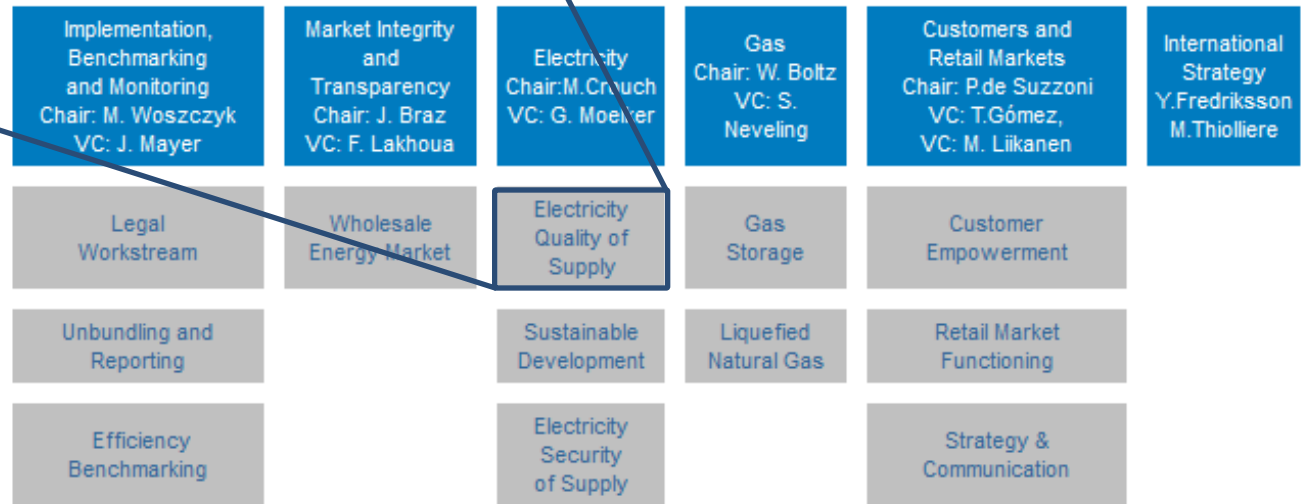
Summary of Contributions for the Guidelines of Good Practice

Werner **FRIEDL**

CEER-ECRB-Eurelectric Workshop on VQM

Brussels, 1 October 2012

Electricity Quality of Supply and Smart Grids Task Force EQS TF



Papers and reports on: Smart Grids and **QUALITY**

Evolution of activities on quality aspects

2001

2003

2011

5TH CEER BENCHMARKING REPORT
ON THE QUALITY OF ELECTRICITY SUPPLY
2011

2008

CEER
+ ECRB
+ CH

35 countries

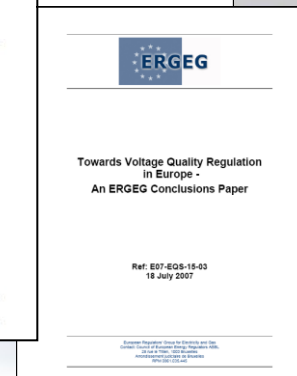
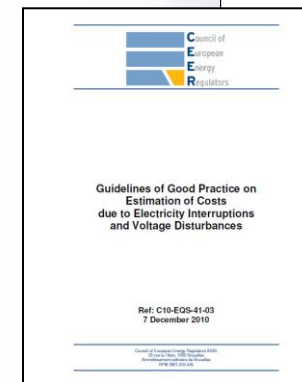
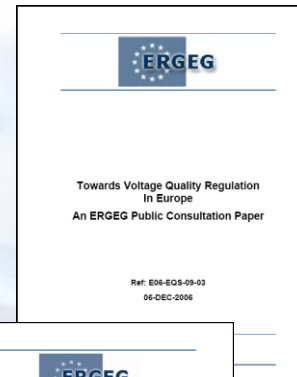
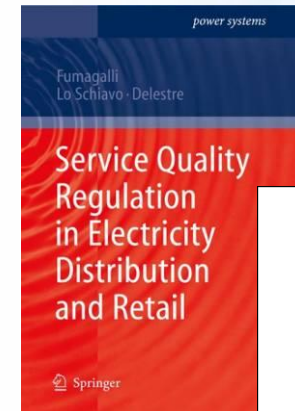


Quality of Electricity Supply in the Energy
Community

– Benchmarking Report –

**first common report of
CEER and ECRB**

- “Towards Voltage Quality Regulation In Europe”
EREG Public Consultation Paper - Dec. 2006
- “Towards Voltage Quality Regulation in Europe”
EREG Conclusions Paper - July 2007
- “Towards Voltage Quality Regulation in Europe”
Evaluation of the Comments Received - July 2007
- “Service Quality Regulation in Electricity Distribution and Retail” (CEER und FSR) - 2006/2007
- VQ Monitoring Workshop in Brussels Nov. 2009
- Round Table CEER/EURELECTRIC at CIRED 2009 + 2011
- “Guidelines of Good Practice on Estimation of Costs due to Electricity Interruptions and Voltage Disturbances” - Dec. 2010
- **GGP on the Implementation and Use of Voltage Quality Monitoring Systems for Regulatory Purposes - 2012**



- Voltage quality monitoring programs are a useful tool for regulation

There are sufficient applications with advantages that in the end fall to the network user to justify having a voltage-quality monitoring program.

A monitoring program can be fully under the control of the NRA, or, installed and operated by the network operator with the NRA getting access to the data.

- Diversification of indices and methods is to be avoided

A number of voltage quality monitoring programs are already in place in different countries. There are large differences between these programs – this makes it difficult to compare the results and exchange knowledge and experience – harmonisation is needed! (choice of monitor locations, types of disturbances monitored, characteristics recorded, indices calculated)

- Voltage quality monitoring programs should be funded through network tariffs

The most common way of funding such a program is through the network tariffs. This can however vary between countries based on the local tariff structure and regulation.

- Making results available is important

Publication of the results (including compliance with voltage quality regulation and important trends) and making data available in other ways are important parts of a voltage-quality monitoring program.

- **Keep other applications in mind**

When setting up a voltage-quality monitoring program, it is important to consider all possible applications. Even if the purpose of a program is initially limited, small changes to the set-up of a program or to the kind of parameters recorded or calculated, can allow future applications at no or very small extra effort (setting up of such a program should be done in close cooperation between NRAs and network operators).

- New challenges based on changes to the system (like additional integration of DG and new types of customers)
- Main target of customers is: don't stop the process
 - Majority focus (99%) on Dips and loss of supply
- VQ should be the responsibility of DSOs/TSOs manufacturers and end-users
- Several speakers and comments have emphasised harmonised monitoring along EN 50160; harmonised format of data interpretation / collection ...
- VQM by SM on LV for individual verification to be accompanied by more sophisticated monitoring (e.g. at MV-level)

- Awareness of sharing curves will be a key point over the next few years. Initiatives should be taken to better inform consumers about their responsibilities.
- Where no reasonable objections exist, voltage quality data should be published for permitting users to design their plants, and also for research and educational purposes.
- Going beyond 50160 is possible at a reasonable cost for society.

- Broad agreement (DSOs, NRAs, customers) regarding costs and need for VQM
- NRAs to promote standardisation and harmonisation (data management, interfacing, data reporting, protocols...)
- Complaints are not the only drivers / reasons for VQM, there are many more
- Measurement at MV substation is enough for dip monitoring

Next Steps

- Conclusions of previous Regulators' work in the field of voltage quality regulation: **improvements of the relevant standards** is needed
- One of the findings in the 5th Benchmarking Report was that five years of standardisation work has resulted in (only) slight improvements of the relevant European standard
- An increasing number of countries have introduced voltage-quality regulation beyond EN 50160
- In CEER, an alternative to the standardisation route through CENELEC is under discussion and planned

Thank you for your attention!

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