

Terms of Reference for QoS Task Force of the ECDSO-E Coordination Group

1. BACKGROUND

ECDSO-E at its 6th meeting concluded that clear and harmonized approach to definition of monitoring and reporting of quality of service indicators is a precondition for investment incentives to improve quality of service.

The assessment of the Investment incentives for quality of service was following:

- Regulatory investment incentives are not sufficient
- Lack of investments also negatively influences quality of service (QoS) in the region (e.g. introducing penalties in case of non-compliance with QoS standards)
- It is necessary to develop / improve regulatory framework incentivizing investments
- Studies show that QoS can be improved by increasing efficiency of DSO internal structures; improvement of planned interruptions is though also limited by grid design (star structure)
- Statistics on QoS should exclude “force majeure” cases to ensure comparability of data; definition of “force majeure” is necessary (ref. CEER)
- Regulatory acknowledgement of planned investments in the RAB before their realization can be seen as a promoter for investments

On the 11th meeting, ECDSO-E established Task Force to deal with the quality of supply.

2. OBJECTIVES

The overall objective is to ensure harmonized definition of quality of supply standards, monitoring and reporting as well as measurement techniques, thus providing a useful tool for benchmarking of consistent and comparable information.

The objectives are also defined by the ECDSO-E at its 7th meeting on 16 October 2016 in Vienna. DSOs emphasized the importance of automated record of events affecting the observed indicators, as well as significance of quality standards for incentive regulation and for comparability of network charges and underlying minimum quality standards.

To that end, regulators should acknowledge the costs / investments required to improve quality of supply, as well the investments required to monitor security of supply.

3. PURPOSE

The purpose of QoS TF is to conduct, with the assistance of the Secretariat, a mapping of existing information, mandates, activities and initiatives to enhance policy coordination, facilitate dialogue, share knowledge as well as to identify future needs and action based on findings.

4. SCOPE OF WORK

According to the ECRB Report presented at 8th meeting (Athens 2016), prepared as an annex to 6th CEER Benchmarking Report on Quality of Electricity Supply, CPs were not able to provide the complete data set on different aspects of CoS monitoring and regulation expected from the questionnaire.

Review and analysis of collected data on continuity of supply show also the differences in timing and scope of CoS monitoring development among CPs.

It also provides an assessment of areas where a move towards harmonisation could further improve quality of supply. The findings and recommendations of the report will hopefully lead to further development of national regulation and harmonization among the CPs.

The work of TF **covers three aspects of quality of electricity supply**, namely:

- Continuity of Supply (CoS),
- Voltage Quality (VQ) and
- Commercial Quality (CQ).

The work of this TF will particularly focus on those quality dimensions which are linked to DSOs.

4.1. CONTINUITY OF SUPPLY (CoS)

Continuity of supply is characterised by the number and duration of interruptions. Several indicators are used to evaluate the continuity of supply in transmission and distribution networks, and all of them refer to pre-defined period (usually one year). They may be further differentiated on unplanned and planned outages, and may include only outages above a specified period of time, e.g. excluding all short-term outages below duration of 3 minutes. When setting regulatory incentives to improve reliability levels, it is important to distinguish a cause of an interruption. Therefore, for regulatory purposes the indicators are typically calculated for interruptions under the responsibility of the DSO/TSO, differentiated on voltage levels, length of the interruptions, and type of geographical area. Regulation generally excludes interruptions caused either by the force majeure or by actions of third parties.

Regulation can aim to compensate customers for very long supply interruptions, keep restoration times under control and create incentives to reduce the total number and duration of interruptions (and disincentives to increase them).

QoS TF will particularly elaborate the following issues:

- Definition of force majeure and exceptional events

- Classification of interruptions sub-causes in three main groups - Force majeure, DSO responsibility and Third party responsibility.
- Definitions and monitoring of interruptions based on voltage levels, geographical area, and duration (short-term or long-term outages)
- Technical characteristics of network e.g. the share of overhead circuits and of underground cables within a distribution network.
- Measurement techniques
- Continuity of supply indicators
- Standards and incentives in continuity of supply regulation

4.2 VOLTAGE QUALITY (VQ)

Voltage quality is becoming an important issue for DSOs and customers in most countries, both because of the sensitivity of end-user equipment and the increasing concern of some end-users. Even though it is essentially a technical issue, this aspect of quality is an increasing concern, since consumers' equipment is becoming more sensitive to it. Moreover, new consumers' equipment is increasingly becoming the source of —pollution to the network. The main parameters of voltage quality are frequency, voltage magnitude and its variation, voltage swells and dips, fluctuations in voltage magnitude - flickers, short interruptions,, temporary or transient over-voltages and harmonic distortion and voltage unbalance. European Standard EN 50160 lists the main voltage characteristics in low and medium voltage networks, under normal operating conditions. The issue of voltage quality is particularly important, taking into account the new regulatory frameworks which put strong emphasis on cost reduction. When setting up the quality regulation framework, there are a number of basic issues that need to be considered first. This understanding is crucial in order to make the right choices and achieve an effective voltage quality regulatory system. It is important to clearly define voltage quality and develop suitable indicators. EN 61000-4-30 describes common methods for voltage quality measurement.

QoS TF will especially pay attention to:

- How voltage quality is regulated
- Responsibilities for regulation of voltage quality
- Voltage quality standardization (EN 50160)
- Methods for voltage quality measurement (EN 61000-4-30)
- Voltage quality monitoring systems and data (IEC standards, CIGRE recommendations)

4.3 COMMERCIAL QUALITY

Commercial quality concerns the quality of relationships between a supplier and a user. It is important for a potential customer before selecting a supplier to start from the day the customer asks for information or makes a request to be connected to the network. Commercial quality covers many aspects of the relationship, but only some of them can be measured and regulated through standards or other instruments. Standards can relate to the overall provision of services (often called Overall standards) or to the delivery of services to individual customers (often called Guaranteed standards); Guaranteed standards are usually associated with some kind of compensation to the user in the event of non-compliance. Commercial quality indicators can be grouped into four main aspects/categories: Customer connection, Customer interaction/service, Metering and billing, Technical service.

If Guaranteed standards are in force for predefined commercial indicators, the level of performance must be achieved in each individual delivery, otherwise customer who fails to receive the required level of service under a guaranteed standard may be entitled to receive compensation. It can be decided whether customers need to actively ask operator to receive compensation or whether operators are mandated to automatically compensate customers.

Special attention will be paid to:

- Main aspects of commercial quality
- Main groups of commercial quality aspects
- Commercial quality indicators and their definitions
- How to regulate commercial quality

While performing this work, QoS TF will have the following priorities:

- Strengthening regulatory framework by adoption of new secondary legislation (DSOs' position to be defined and presented to NRAs)
- Harmonizing QoS indicators and standards, recording, monitoring, reporting and publishing practices
- Establishing a link between prices and level of quality of service
- Dynamics of improving the quality indicators
- Strengthening cooperation between EnC CPs NRAs, TSOs and DSOs on QoS issues
- Continuous monitoring and benchmarking
- Continuing cooperation with CEER on Benchmarking Reports

The Task Force on QoS, in accordance with its mandate, will conduct the following activities within expected timeframe:

	Activities & Deliverables	Timeframe
1	<p>Comparing strategies and experiences in implementing QoS regulation in each country CPs represented in the Working Group TF and the best examples of the EU Member States.</p> <p>Overview of the EnC CPs and EU Member States regulatory aspects of the QoS. Overview of the secondary legislation</p> <p>QoS rules responsibility – Who is responsible for development and approval of QoS rules?</p> <p>QoS rules development - Are DSOs involved/consulted in the process of QoS rules development?</p>	December 31, 2018
2	<p>Identification of QoS indicators/standards used in each CPs country and [some] EU Member States.</p> <p>Definition of force majeure, Classification of interruption sub-causes (Force majeure, DSO responsibility and Third party responsibility), Classification of interruption differentiated on duration, voltage levels, and geographical area.</p>	February 28, 2019
3	<p>Description of the way information is collected and standards are computed. Harmonization of the indicators/standards to be used in the first benchmarking study report for all three aspects of quality of electricity supply.</p> <p>Identification of long-term objectives to be met.</p>	March 31, 2019
4	Questionnaire preparation and distribution	April 30, 2019

5	<p>Performing the first benchmarking study report on QoS.</p> <p>Year 2018 QoS benchmarking</p>	June 30, 2019
6	<p>Identifying possible recommendation to be made to EnC and NRAs concerning QoS benchmarking studies reports.</p> <p>Recommendation of the TF for improving regulatory framework incentivizing investments (Overall/ Guaranteed standards);</p> <p>Definition of penalties?</p> <p>Incentives to promote gradual changes in quality levels (recommendation of incentive schemes, bonus/malus schemes).</p> <p>Recommendations for improving the reliability of future benchmarking studies.</p>	July 31, 2019