

**Position of
Východoslovenská energetika a.s. (VSE)
on European Energy Regulator's Public Consultation**

Treatment of Losses by Network Operators

Introduction, general comments

VSE would like to thank for the opportunity to express its position on the ERGEG consultation on the treatment of losses by network operators. However, we would like to point out that the need for any harmonization in this field is not apparent. The "level playing-field" mentioned in the consultation document would only be of relevance if and as far as grid operators would compete with each other. As far as regulated natural monopolies are concerned this argument is then not longer valid. Furthermore any undistorted comparison of the efficiency of grid operators faces much more significant problems than different regimes for the treatment of losses. For these reasons we recommend that the principle of subsidiarity is applied and any harmonization regarding the treatment of losses – especially for distribution system operators (DSO) – is scrutinized thoroughly with the focus whether different rules set by different national regulators really pose a problem. Harmonization should not be pursued for the sake of harmonization.

Answers to specific questions asked by ERGEG

Q1. What is considered an acceptable definition of losses?

In general, grid losses are usually defined as electricity entering the grid less electricity supplied by the grid, i.e. on the first sight simple Input – Output definition. However, when more detailed methodology should be defined, it is apparent that the issue is very complex. Especially determining an appropriately estimated annual output on LV level is quite complex due to the fact that usually meter reading of LV customers is done in a rolling way. Customer movements during the year (removals and new connections) complicate any methodology even further.

As we already pointed out in general comments, there is no apparent reason to standardize the definition of losses in different Member States. We even assume that any attempt to harmonize definition of losses would fail due to enormous differences in grids in different Member States. This clearly is an issue that can be left to subsidiarity.

Q2. Should power losses refer only to technical losses or is it acceptable to include also non-technical losses?

As it is apparent from Table 2 in consulted paper, level of losses, especially at DSO level, are apparently higher in new Member states, including Slovakia. The difference is caused not only by differences in technical set up of the grids, but to significant extent also by non-technical losses. It is caused mainly by social situation in these countries. However, we would like to point out that cost-benefit analysis has to be taken into account when analyzing this issue.

i) At DSO level, it is not feasible to separate different types of losses.

The separate measurement of non-technical losses is very expensive, since for that purpose all medium/low voltage local transformers and connections in low voltage need to be metered continuously. On the DSO level it is for these reasons not feasible to isolate technical from non-technical losses in an efficient way.

ii) There is an economic rationale to accept certain level of non-technical losses.

There are some costs associated to decrease of the volume of both technical and non-technical losses. It is efficient to decrease losses up to the point when net present value of saved losses is higher than net present value of cost associated to the losses reduction. Apparently, there exists an optimum, when there is certain volume of technical and non-technical losses, however, it is not economically efficient to force grid operator for further reduction of losses (as the costs would exceed the benefits).

Based on reasons i) and ii) we suggest to refer to overall losses (as it is not feasible to separate different types) and to accept non-technical losses (as it is economically efficient to have certain level of non-technical losses).

Q3. Which are the key components for defining losses?

Refer to answer to Q2.

Q4. What ways exist to improve the evaluation of losses in distribution networks?

This is a significant challenge. Specific non-technical losses that can be estimated (like public lighting) should be isolated and treated accordingly. The by far strongest improvement would require adjustments in metering. As mentioned in answer to Q2 this is complex issue and too costly, requiring also significant time for implementation.

These questions are best addressed individually on the Member State level as both the causes for non-technical losses as well as the parameters influencing the magnitude of technical losses are heavily dependent on historical developments.

Q5. What should be a reasonable and acceptable level of power losses at the distribution level and the transmission level?

Which types of losses could be most easily reduced?

The definition of an acceptable level of losses must not only be treated differently for TSO and DSO, but should also be defined individually for every single grid. Level of losses is significantly influenced by the specific conditions of each grid, e.g. property belonging to grid (grids in the cities and villages, last miles, etc.), load factor (volume and structure changing in time), topology of the grid, social situation in given region. As a consequence of the wide range of sources for power losses, the level of power losses differ from country to country and even from grid to grid. For benchmarking purposes, a general determination of level of power losses or even percentages of cost reduction cannot be applied.

Regarding the reduction of losses, as we have already pointed out in answer to Q2,

i) at DSO level, it is not feasible to separate different types of losses,

ii) and there is an economic rationale to accept certain level of non-technical losses - cost-benefit analysis must be always taken into account.

It is also necessary to state that any reduction of technical losses by the grid operators is only possible in the medium or rather long-term. Usually, grids have been developing over decades and it requires significant time to change its basic properties.

There is one more issue which would help to reduce network losses – optimization of legislative approach to illegal take-offs. It should be responsibility of each Member State to optimize its legislation in a way to enable grid operators to protect themselves easily and efficiently against illegal take offs.

Q6. Who should be responsible for procuring electric energy to cover losses?

Procurement of electricity to cover losses is definitely the responsibility of the grid operators – both TSO and DSO. As the level of losses can to a certain extent be influenced at least in the long term, transferring the responsibility for the procurement would separate grid development from losses. It would then be much more difficult to plan for an optimum in both dimensions. Substitution through the implementation of complex regulatory mechanisms could provide compensation to a certain extent, but will always remain second choice. The much simpler and straightforward solution is to leave all relevant aspects to the responsibility of the grid operator, which will then automatically result in the optimum trade-off between investment and losses.

Q7. How should electric energy to cover losses be procured in a market-oriented way? Which solution is the most efficient?

The grid operators as regulated entities should be obliged to procure the energy in a transparent way. All procurement should possibly be strictly market-based and non-discriminatory. However, it assumes existence of liquid wholesale market for electricity, which is not the case e.g. in Slovakia.

Given the fact that grid operators are subjects of price regulation, pass-through principle for costs of electricity purchased to cover network losses must be accepted by regulator. Therefore, regulator could define the rules how to purchase electricity for network losses, however, if regulated subject follows these rules, regulator has to accept the costs as the grid operator cannot influence the market price of electricity.

In any case the procurement procedures need not to be harmonized and should be left to the subsidiarity of the Member States, especially due to existence of specific conditions at different electricity markets.

Q8. Should the costs of losses be covered by a special tariff?

This is definitely the preferred method. Such special tariff exists in Slovakia and from our experience it is transparent way how to cover costs of grid losses. It reduces the risk that higher costs for losses are compensated by deeper cuts for other costs entering the grid tariffs.

Q9. What are the advantages and disadvantages of the aforementioned incentive mechanisms?

In general, an incentive for both TSO and DSO to reduce the cost of losses is an appropriate design element of a regulatory mechanism. The regulator has to be careful however. Only a

small part of the costs of losses can be influenced by the grid operator and that only in the medium to long-term. This limits the effectiveness of any incentives to the grid operator.

As we have already explained there exists cost-benefit issue to reduce network losses. Therefore, any reduction of losses requires investment from grid operator and thus long enough timeframe for incentive regulation is important to achieve desired results, that is a reduction of the overall grid costs.

Again different incentive mechanism can exist in different Member States without any harmful effect. The design of incentives is thus best left to subsidiarity.

Q10. Which key elements should be considered when assessing different regulatory incentive mechanisms?

As mentioned above, the incentive mechanisms must be extremely sensitive to the degree, to which the grid operator can really influence the costs incurred by the compensation of losses. Accordingly, the regulator should set incentives to reduce losses very carefully and only with a medium-term or even better long-term target.

A fundamental error would it be however to design incentives for either TSO or DSO not only to reduce the amount of losses, but also the price at which the energy is procured. Instead the regulator should set transparent procedures as outlined in the answer to question no. 7. If the grid operators adhere to these procedures, there should be neither a benchmark regarding the procurement price nor any other reductions in the costs incurred, as the procurement price cannot be influenced by the grid operators.

Q11. Are there advantages in setting separate mechanisms for technical and non-technical losses?

As mentioned above, at DSO level it is not cost-effective to separate different types of losses. Therefore, there should be incentive mechanism set for total losses with no distinction of the specific types of losses.

Q12. Are there advantages in setting separate mechanisms for transmission and distribution losses?

TSO and DSO face different challenges in limiting the costs for the compensation of losses. For this reason, the incentive mechanisms should be designed with the respective problems of TSO and DSO in mind.