

**COMMENTS ON THE PROPOSAL OF
GUIDELINES ON INTER TSO COMPENSATION (ITC)
DRAFTED BY THE EUROPEAN COMMISSION**

Summary

The mechanism suggested in the Guidelines to the Regulation is based on the current ITC mechanism used by ETSO. This current mechanism was intended to be a short-term solution, as it was developed as an initial way to eliminate 'pancaking'. When considering these Guidelines we should not forget the many arguments that both the CEER and the EC used in discussions to prove that for a long-term system a more economically sound and close-to-reality system is needed.

EREG suggests that activities to define the longer-term mechanism are renewed as soon as possible with a reasonable deadline to be established by the EU Commission. ETSO and the regulators should be the major contributors to propose a longer-term mechanism.

We should like to emphasise therefore that a long-term solution remains to be found. EREG suggest that criteria for any long-term solution should include:

- The ITC mechanism shall take into account as far as possible all cross border flows, complying with Article 3 of the Regulation.
- The method for network cost allocation must be consistent with the fundamental approach inspiring the construction of the IEM: "The overall goal is for the EU and wider market to function in the same way as a national market"¹. These are elements of the fundamental approach that is known as the "single system paradigm".
- The method for network cost allocation must be consistent with the overall framework of transmission regulation, so that any mutual implications with other aspects of transmission regulation (investment in new infrastructures, locational signals for operation and investment, congestion management and network tariff harmonization) do not create undesirable conflicts, now or in the future.
- Any method adopted should promote efficiency, be transparent, reasonable, cost reflective and non-discriminatory.
- Technical soundness – any solution should reflect the underlying technical and engineering characteristics of networks.
- Implementation – any solution must be cost effective to implement and data handling requirements must be manageable.
- Ability to be easily understood, applied and verified – the basic concept of the method should be easy to explain and communicate.

¹ EU Commission staff Working Paper, "Strategy Paper: Medium Term vision for the Internal Electricity Market (IEM)", 1-3-2004.

In addition, a medium and long term strategy for the creation of a wider European electricity market and the possibility of the existence of any future regional markets (e.g. South East European market), developed along the lines of the EU REM, should also be taken into account, with the view to ensuring that the Inter-TSO mechanism in force should not create any barriers to the trade of electricity between the existing participants and such future regional markets.

Discussion

Transits

The suggested compensation mechanism is based on the concept of “transit”. It assumes that for flows between two Member States without any other country being affected, the impact on the network of the importing and exporting country implies the same level of costs. This need not necessarily be the case and there exist transmission scenarios where compensation is appropriate between the importing and exporting country. This approach, compared to other mechanisms, tends to benefit the countries where transits are recorded at the expense of peripheral countries and those with large in/outflows.

The method uses a transit key (coefficient “ ξ ”) to determine the amount of transit flows relative to the total flow on the network. This is an approximation that in principle, pending further analysis, should be in future be replaced by a mechanism that reflects the underlying physical situation.

For future Guidelines, it will be appropriate to consider progressing towards a compensation mechanism which reflects all cross border network flows and which is not limited to transits. This will, however, require further examination by regulators and network operators.

LRAIC

Compensation based on replacement costs at today’s price levels has some possible pitfalls. The network asset base might be too high if replacement costs are used to assess inter-TSO compensations compared to the regulated asset base used to define national tariffs. By neglecting the age of the existing network, the method might overestimate the need to remunerate asset depreciation, which might lead to an overestimation of the regulated cost of transmission. In order to reduce this overestimation problem, it is important that the valuation of the asset is based on an optimized grid infrastructure which could be discussed in the context of Article 3 para. 6 of Regulation 1228/2003. Grid infrastructure optimization methods should be developed for the long-term ITC mechanism.

Furthermore it is essential that the principle of forward looking LRAIC applies only to the compensation mechanism. National tariffs will continue to be based on the valuation of the asset base agreed between regulator and the TSO.

LRAIC should be based on standardised costs, calculated in a transparent manner and cost standardisation should be based on the efficient cost of the network components. Thus, it is important that a common methodology to calculate standardised costs is clearly defined. In future Guidelines, network replacement costs should be based on detailed studies of recent investments. An assessment of standardized generally applicable levels should be made and changes in long term costs should be monitored.

Losses

According to the Regulation, benefits that a network incurs as a result of hosting cross-border flows shall be taken into account to reduce the compensation received. Benefits may be caused by a decrease in losses. The loss component defined in present Guidelines is always positive and does not take into account the beneficial effects.

In future Guidelines, full compensation for losses should be included. Furthermore some justification should be given in the Guidelines for the scheme used to evaluate compensation for losses.

EXPLANATORY NOTE

1 Introduction

The Regulation on cross border exchanges in electricity² allows for binding guidelines on inter TSO compensation to be adopted by a regulatory Comitology process. This procedure requires the Commission to make a proposal for guidelines to be considered by the Committee referred to in Article 13 of the Regulation.

The attached document accordingly puts forward a proposal for Guidelines on the following subjects;

- details of the determination and payment procedure for compensation between TSOs relating to cross border flows; Article 8(2) (a) – (d)
- treatment, in the context of the inter-TSO compensation mechanism, of electricity flows originating or ending in countries outside the EEA; Article 8(2) (e)
- the participation of national systems which are interconnected through direct current lines; Article 8(2) (f)

The main principles adopted by the Commission in its proposal for the detailed guidelines, which are taken from the Articles of the Regulation are set out and explained below. The individual rules set out in the guidelines are intended to direct regulators and transmission companies as to how these principles should be implemented.

2 Approach Taken in the Guidelines

2.1 Flows to be taken into account

Transmission system operators shall receive compensation for costs incurred as a result of hosting cross-border flows of electricity on their networks (i.e. a flow attributed in part or whole to either a generator or consumer outside the Member State concerned) [Article 3(1)].

The amounts of cross-border flows hosted and the amounts of cross-border flows designated as originating and/or ending in national transmission systems shall be determined on the basis of the physical flows of electricity actually measured in a given period of time [Article 3(5)].

² Regulation 1228/2003.

The Regulation sets out the principle that Member States should receive compensation for any cross border flows that will imply additional costs to the TSO concerned. The transit approach makes a simplifying assumption such that the impact on the networks of the importing country and the exporting country implies the same level of costs.

The proposed guidelines for 2005 set out a continuation of the mechanism based on an assessment of “transit” flows. Compensation will, therefore only be paid to the extent that third countries are affected by flows originating and terminating in other Member States. “Transit” flows are defined on the basis of actual physical flows of electricity with the TSOs hosting these transit flows having the right to claim for the costs incurred as a result.

2.2 Designation of responsibility for transient flows

The compensation referred to in paragraph 1 shall be paid by the operators of national transmission systems from which cross-border flows originate and the systems where those flows end [Article 3(2)].

In this set of guidelines for 2005, the designation of responsibility is made on the basis of a general assumption that each net inflow or outflow of electricity during a given period bears equal responsibility for the aggregate quantity of “transits” caused in the affected networks. Hence the aggregate amount claimed by the host TSOs under the methodology is shared out among the other participating entities in proportion to the net inflow or outflow to/from of the participating entities in the period concerned. Responsibility for the flows is divided equally between inflow countries and outflow countries. This will be determined on an hourly basis.

An exception is made for countries/TSOs which have inflows or outflows from countries or entities which do not participate in the compensation mechanism. In this case, their contribution is calculated on the basis of a hypothetical flows pattern with the flows from non-participating countries removed. This is because outflows from the participating countries may be affected by inflows for non-participating countries for which some payment has already been collected.

2.3 Basis for calculating to the costs incurred by “host countries”

The costs incurred as a result of hosting cross-border flows shall be established on the basis of the forward looking long-run average incremental costs, taking into account losses, investment in new infrastructure, and an appropriate proportion of the cost of existing infrastructure, as far as existing infrastructure is used to transmit cross-border flows. When establishing the costs incurred, standard-costing methodologies shall be used. Benefits that a network incurs as a result of hosting cross-border flows shall be taken into account [Article 3(6)].

In the guidelines for 2005 a simplifying cost rules is adopted. This assumes that “transit” flows on the host country network imply a cost to the host network, related to both network investment costs and losses, in proportion to the share of transits in the total level of flows on that network in the time period being considered. Regarding the last sentence, the definition of “transit” used in the guidelines, since it is based on actual physical flows rather than a definition based on contract path, specifically rules out the possibility of benefits accruing to host TSO in terms of a reduction in overall physical flow. The guidelines also include a methodology for delimiting the extent of the network affected by the transits flows, “the

horizontal network” based on the extent to which the network is affected by a hypothetical degree of transit flows.

From 2005 the total network costs to be taken into account should be based in the principle of forward looking long-run average costs. **This applies only to the compensation mechanism and national tariffs will continue to be based on the valuation of the asset base agreed between regulator and the TSO.**

In these guidelines, LRAIC is interpreted in the same way as in the telecommunication sector. This implies that the replacement or duplication costs of the existing assets on the basis of today's price levels and technology would be a suitable approximation to forward looking LRAIC. The standardised methodology therefore includes the following steps:

- country specific asset valuation on the basis of LRAIC submitted by the regulator within certain ranges included in the guidelines,
- common financial and operating cost assumptions: e.g.;
 - cost of capital 6% nominal pre tax,
 - depreciation 40 years,
 - operating costs (includes operating, maintenance and planning costs) 2.0% p.a. of total asset value

Given the fact that money is being transferred between Member States it is important for the values concerned to be consistent, even if the parameters used for determining regulatory revenues in individual Member States is different. The above figures are based on a broad average of current regulatory practice in the different Member States. To convert estimated replacement costs to annual values annuities have to be used.

The cost of losses should be defined using same standardised cost base e.g. market based price.

2.5 Determination of first period of time

Under Article 3, the guidelines should include the first period of time during which compensation payments shall be made under the Regulation. This will be 1 January 2005 – 31 December 2005.

The compensation mechanism is a temporary solution until the long-term compensation mechanism is developed.

2.6 Payment procedure

This is also referred to in Article 3(3). These guidelines propose the approach contained in the Annex A to the guidelines which replicates the current arrangements within ETSO.

3. Treatment of flows starting/ending in non-EEA countries

Once the Regulation is in force, there will be ten new Member States. After excluding non-connected islands (Malta and Cyprus), there will be 24 participating countries of the EEA. The three Baltic countries, however, are expected to form a separate system. When making calculations, the participating countries may be split into small "entities" for geographical or other reasons (e.g. E. and W. Denmark).

This should not mean that other countries should be excluded from participating. Switzerland should also be fully involved in the exercise as soon as possible under the condition that full compliance with the rules on the compensation mechanism contained in Regulation 1228/2003 and in these Guidelines is effectively achieved in there, so that export and import charges are removed. However, it should be the case that all participants from outside the EEA should be required to comply with all three sets of guidelines (i.e. including those relating to congestion management and G/L harmonisation).

For those countries which do not choose to participate in the wider European market in this way, measured inflows and outflows will be subject to a transaction based charge reflecting the use of the participating countries' networks of €1/MWh.

4. Systems interconnected through DC interconnectors

4.1 DC interconnectors that form part of the general regulated asset base

Article 8(2) states that the guidelines shall specify the participation of national system which are interconnected through direct current lines, in accordance with Article 3.

The guidelines take the view that, in general, participation in the inter TSO compensation mechanism, and the removal of charges relating to cross border transactions will not be affected by whether Member States are connected by AC or DC lines. Therefore DC lines, where they form part of the regulated asset base of the participant concerned will be included in the network in that Member State. To the extent that, on aggregate, the Member State concerned was a host of transit flows, DC lines would be included in the horizontal network for which compensation would be due. These compensation amounts would entirely replace any fixed charges on interconnector use.

4.2 DC interconnectors that are legally separate entities from the TSO and do not form part of the general regulated network

Interconnectors which are separate from the general regulated asset base of the TSO and do not form part of the general regulated network, including those with exemptions from third party access, are excluded from the horizontal network for the purpose of inter-TSO compensation. The owners of these lines will neither contribute nor receive from the compensation fund. Nevertheless, the flows in these lines will be treated as any other physical flow in the mechanism of computation of inter-TSO compensations and charges. In case a merchant direct current line is treated for regulatory purposes as a (G, L) pair, it will have to pay the corresponding charges as a generator and a load, plus any additional charges that may correspond because of incurred externalities in network operation.

5 Baltic Countries

Considering that these three Member States are currently not connected to any other part of the EU network, the guidelines envisage a separate compensation mechanism between the TSOs of the three countries concerned. TSOs in all other Member States will be part of the same compensation mechanism.

Brussels, August 10, 2004

GUIDELINES ON INTER TSO COMPENSATION

2005 SCHEME

1 List of Participants: scheme A

The following entities shall participate in the compensation mechanism as a single payee and recipient of inter TSO compensation

- Statnett
- Svenska Kraftnät
- Fingrid
- Eltra
- Elkraft
- Collectively: E.ON Netz, RWE Net, Vattenfall Transmission Germany, ENBW Network, TIR AG, VKW-UNG
- Tennet
- Elia
- RTE
- Collectively: National Grid, SP Transmission, Scottish Hydro Transmission
- SONI
- ESB National Grid (Eirgrid)
- REE (Red Eléctrica de España)
- Rede Electrica Nacional
- GRTN
- Verbund Austrian Power Grid
- HTSO
- PSE
- CEPS
- SEPS
- MVM
- ELES

Other entities, for example, Swiss TSOs or TSOs of countries of the future SEE REM when third party access is effectively implemented in these countries, may also participate in the compensation mechanism on the basis of a binding legal agreement between that entity and, collectively, the transmission system operators listed above.

Luxembourg's TSOs shall participate in the compensation mechanism individually or collectively according to actual network configuration with neighbouring TSOs.

List of Participants: scheme B

Estii Energia

Latvernego

Lithuania

No payments shall be made between participants in scheme A and in scheme B.

2 Determination of receipts of compensation

- 2.1 For each of the entities referred to in paragraph 1, including those participating by private contract ("participants"), compensation will be paid in relation to the quantity of "transit flows" in the annual period under consideration which shall be determined according to the following formula:

$$T_i = \text{Min}(X(t)_i, M(t)_i)$$

where:

$X(t)$ = measured flow on interconnections in export direction during hour t

$M(t)$ = measured flow on interconnections in import direction during hour t

- 2.2 The amount of compensation to be paid will be relative to the amount of defined transit flows relative to the total flow on the network of the participant as defined by the coefficient " ξ " below:

$$\xi = \frac{1}{8760} \sum_{t=1}^{8760} \left(\frac{T_i}{T_i + \max(L_i, G_i)} \right)$$

where:

T_i is transit in entity " i "

L_i is the load in entity " i "

G_i is the generation in entity " i "

[Both expressed in GWh]

- 2.3 The first component of the amount of compensation will then be given by

$$c_i = \xi_i \times (\text{"annual forward looking LRAIC of the horizontal network"})_i$$

- 2.4 The horizontal network is defined as that part of the participant's total network where a difference in flow in excess of 1 MW is registered in a scenario with no

transit flows compared to a situation where a reference amount of transit flows of 100 MW is assumed. Annex B presents the procedure for definition. Participants shall provide to the Commission information on the assets forming part of the horizontal network in terms of km of 380 kV and 220 kV transmission lines and cables (both alternating current and direct current cables) as well as the number of 380/220 kV substations and direct current converter stations.

- 2.5 An assessment of “forward looking LRAIC” shall be submitted for each participant by the regulatory authority in the Member State(s) concerned. This value shall be expressed as an average capital cost (€) per km relating to the hypothetical construction of infrastructure duplicating or replacing the existing 380 kV and 220 kV networks and of the cost of 380/220 kV substations.
- 2.6 The estimate for LRAIC provided by regulators shall not deviate from the following ranges³.

	380 kV overhead		220 kV overhead	
Member State	double circuit	single circuit	double circuit	single circuit
FI, SE, EL, PT, EE, LT, LV, CZ, PL, HU, SL, SI	250.000 – 350.000 €/km	150.000 – 220.000 €/km	175.000 – 250.000 €/km	100.000 – 150.000 €/km
DK, NO, ES, BE, NL, IR, FR, DE, UK, IT, LX, AT, CH	350.000 – 600.000 €/km	220.000 – 400.000 €/km	250.000 – 400.000 €/km	150.000 – 250.000 €/km

	380 kV underground cable and converter station	220 kV underground cable and converter station
All Member States	5.000.000 €/km	3.000.000 €/km

³ Eastern European countries prefer to be placed on higher cost category

	380 kV – 220 kV substation	220 kV – 110 kV substation
All Member States	2.000.000 €/bay	2.000.000 €/bay

2.7 To convert capital cost estimates to annualised amounts the annuity shall be used based on the following parameters :

- cost of capital per annum: 6 % nominal pre tax,
- depreciation period: 40 years,
- operating costs: 2,0% p.a. of total asset value

2.8 The second component of the amount of compensation will then be given by

$I_i = \text{MIN} (\xi_i, 0.15) \times (\text{"total annual losses recorded in the horizontal network multiplied by market based average annual price for energy"})_i$

2.9 For both components;

- the calculation shall include all alternating current lines.
- the calculation shall include all direct current lines of participants which form part of the general regulated asset base of the participant.

2.10 Interconnectors that are legally separate from TSOs and which are not included in the regulated asset base are excluded from the asset base used for the evaluation of the LRAIC of the horizontal network, although the physical flows in these lines are considered in the calculation of the receipts and payments of compensations as any other flow.

2.11 The total amount to be received for each participant shall be given by the formula:

$$r_i = c_i + I_i$$

3 Flows from non-participants

3.1 Participating entities shall, where they are connected to other non participant networks, contribute to the compensation fund to the extent that they receive net flows from them. This shall not apply to participating entities from Estonia, Latvia and Lithuania.

3.2 TSOs affected shall contribute €1/MWh to the fund for each unit of net flow from non participating countries

$$NFX(t)_i = \text{Absolute value}[(X(t)_{ij} - M(t)_{ij})]$$

where j is a non participating entity.

3.3 The participants affected may charge this amount to the network users, which hold contracts to import or export the electricity concerned.

3.4 The total contribution relating to flows with non participants for each country shall be termed “ x_i ” and will be given by the formula

$$x_i = \sum_j \sum_{t=1}^{8760} NFX(t)_i$$

4 Determination of payments of compensation

4.1 Compensation from Member States shall be collected in relation to the cumulative absolute net flow “CANF” of electricity during the annual period in question according to the following formula;

$$CANF_i = \sum_{t=1}^{8760} \text{Absolute value}[(X(t)_i - M(t)_i)]$$

For participants paying contributions relating to non-participating countries under section 3 above, the calculation of CANF shall exclude net flows recorded at borders with non participants.

4.2 The compensation to be paid by each Member State will be determined by the formula

$$\frac{CANF_i}{\sum CANF_i} (\sum r_i - \sum x_i)$$

4.3 Participants shall not make specific charges to individual network users in order to collect the contributions required to the fund. Final charges to network users because of the inter-TSO compensation mechanism should not be transaction based.

5 Payment procedure

5.1 Annex A to these guidelines set out the payments procedure to be followed.

ANNEX A

Details of the payment procedure to be followed in the context of the Inter-TSO compensation mechanism (Article 3 of the Regulation)

Pursuant to Article 8, paragraph 2(b) of the Regulation on conditions for access to the network for cross-border exchanges in electricity

1. Compensations payments shall be made per calendar year (year N).
2. In November of the year N-1 the European Transmission Operators shall submit to the Commission the following data and information, on a MS per MS basis:
 - a) The forecasted total cost of the horizontal network (=those parts of the network used for cross-border flows) for the year N,
 - b) The cross-border flows hosted forecasted for the year N, as well as details of its calculation
 - c) The cross-border flows caused forecasted for the year N, as well as details of its calculation
 - d) On the basis of a), b) and c): the compensations payable forecasted for the year N

Prior to its submission to the Commission, the above data and information shall be agreed between all TSOs and the individual data per MS approved by the national regulators concerned.

3. The Commission, by letter, shall agree to the operation of the system in the course of the year N, subject to final end-year clearing, on the basis of the submitted information and data. Where appropriate, the Commission shall require modifications
4. Provisional payments of compensations shall be made between TSOs on a monthly basis in the course of the year N, on the basis of the above forecasts but taking into account physical flows actually measured for the month concerned.
5. In January of the year N+1 the TSOs shall submit to the Commission, after agreement of all TSOs concerned and the national regulators concerned, the final calculation of compensations payable for the year N.

The compensations shall then be definitively determined by the Commission in a Commission decision, pursuant to Article 3(3) of the Regulation.

Brussels, August 10, 2004