Cover note to ERGEG draft proposal on

Guidelines on Inter TSO Compensation

10 April 2006

1. Introduction

1.1. Purpose of paper

Regulation 1228/2003 on conditions for access to the network for cross-border exchanges in electricity, which took effect from 1 July 2004, requires that TSOs be compensated for hosting cross border flows of electricity. Payment of compensation is to come from those TSOs where the flows arise and where they end. The Regulation allows the European Commission, working within a Comitology process, to set binding Guidelines on how this inter-TSO compensation is to be calculated (i.e. ITC Guidelines).

The European Commission has requested ERGEG to provide advice on the content of such ITC Guidelines. Therefore during 2005 and 2006, ERGEG has in suitable collaboration with the European Commission and European Transmission System Operators (ETSO), considered the issues associated with determining and calculating suitable inter-TSO compensation, and has developed and further refined a draft of Inter-TSO Compensation (ITC) Guidelines. The draft sets out a method for determining the costs that TSOs incur as a result of hosting cross border flows, as well as a method for allocating the resulting costs between TSOs.

The purpose of this paper is to seek views on the ERGEG draft of ITC Guidelines, and the issues associated with it.

1.2. Structure of paper

The remainder of this Chapter 1 invites comments, sets out the anticipated process, and also briefly recalls two issues related to the Regulation and the ITC question, namely congestion management and transmission tarification.

Chapter 2 sets out the background and history to the issue of inter-TSO compensation. In particular it notes that voluntary schemes for compensating TSOs have been in existence since 2002, and describes these.

Chapter 3 describes the legal basis under Regulation 1228/2003 for a mandatory ITC scheme.

Chapter 4 sets out ERGEG's proposal for an Inter-TSO compensation scheme for 2007 and the basis for this.

1.3. Invitation to comment

ERGEG set out on 10 August 2004[1] its commitment to consult on its development of policy recommendations and other matters. Such consultation would recognize for example the importance of providing expert input and views, and the need to consult a full range of interested parties, make consultation proposals widely known, and consult at national, European and international levels.

Accordingly, ERGEG invites comments from any interested parties concerning the draft ITC Guidelines, including the Explanatory Note, set out in Annex of this paper. **Any comments should be received by Monday 22 May 2006**.

They should be sent by e-mail to: ITC@ergeg.org or Una.Shortall@ceer-eu.org.

Unless marked confidential, all responses will be published by placing them on the ERGEG website (http://www.ergeg.org). Any questions on this document should, in the first instance, be directed to Una.Shortall@ceer-eu.org.

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1.4. Anticipated process

Comments are invited on the draft ITC Guidelines by **22 May 2006**. ERGEG will publish all comments received (unless marked as confidential). ERGEG intend to revise the draft in the light of comments received and publish its final view, together with reasons, in June 2006. It will provide this final view to the European Commission as formal advice at that point.

ERGEG has delivered to the European Commission in July 2005 formal advice concerning Transmission Tarification Guidelines. Given that the Regulation's Article 8(1) requires that Transmission Tarification Guidelines and ITC Guidelines must be covered in a single draft measure when adopted for the first time, it should be possible for the European Commission to put together both Guidelines for the Comitology process in the second half of the year 2006. This should allow sufficient time for the Guidelines to be considered by the Committee and, if approved, enter into force from 1 January 2007.

However, ERGEG will continue its work by monitoring the implementation of proposed Guidelines and by improving the methods described in the Guidelines in the following years and come back with new proposals in due time.

1.5. Associated issues – Congestion Management and Tariff Harmonization

A number of elements and obstacles need to be addressed in order for a competitive single market for electricity across the EU to be created. Two issues that have been particularly identified by Regulators, the European Commission, and stakeholders, and which can be closely associated with ITC mechanisms and the Regulation, concern Congestion Management and (Transmission) Tariff Harmonization.

[1] Public Guidelines on ERGEG's Consultation Practices, 10 August, ERGEG, available www.ergerg.org

Congested points in the EU transmission network need to be priced and hence allocated efficiently. This will necessarily involve additional payments and mechanisms for parties wishing to trade over such congested points.

It will also be helpful to adopt some degree of consistency or compatibility regarding the bases for transmission charging in each EU Member State, in order to minimize unnecessary market distortions and to promote a level playing field for the wholesale electricity market. Such consistency or compatibility will complement the objectives of an inter-TSO mechanism.

The Regulation allows the European Commission to set binding Guidelines regarding both congestion management and transmission tarification. Both issues have recently been the subject of consultation by ERGEG[2]. On 17 July 2005, ERGEG published its official advice to the European Commission on these matters.

The Congestion Management Guidelines are now subject to a 'Comitology' process expected to culminate with the Guidelines entering into force in 2007.

The Regulation's Article 8(1) requires that the Transmission Tarification Guidelines and ITC Guidelines must be covered in a single draft measure when adopted for the first time. Bearing in mind the anticipated timetable for the ITC Guidelines, it should be possible for the Transmission Tarification and ITC Guidelines to enter together the Comitology process during the second half of 2006. This should allow sufficient time for the Guidelines to be considered by the Comitology Committee and, if approved, for both sets of Guidelines to enter into force from 1 January 2007.

2. Background – the voluntary ITC schemes

2.1. Introduction

Regulators, the European Commission and stakeholders recognized early on in the process of introducing a single market for electricity across the EU that a significant obstacle to cross border trade was the need for wholesale market players wishing to trade across borders to pay two or more sets of transmission tariffs. A generator in Austria for example wishing to sell its output in Belgium would need to enter into agreements for, and pay, Austrian, Belgian, and German transmission tariffs. It would also be necessary for the generator to pay transmission fees based on the notional transaction path, even though physical flows arising from the transaction could be quite different. This 'pancaking' of tariffs and the associated need to be 'transaction based' could be a significant deterrent to otherwise efficient trades, and would tend to promote trade within a Member State at the expense of potentially more efficient trades and competition in trade between Member States.

Following discussions at the Florence Forum, and reports by Regulators, Transmission System Operators, the European Commission and others, it was therefore proposed at the 3rd meeting of the Florence Forum (May 1999) that transmission tariffs for the purposes of cross border trade become "non transaction based" and that TSOs compensate each other directly for hosting cross border flows, with each TSO recouping net costs at a national level. Such an approach should therefore enable for example a generator to pay its local transmission access fee and obtain with it the ability to transmit its output to another part of the EU without further payment and without specifying the transaction path. It was recognized however that congested cross border interconnectors would require separate treatment in order to allocate appropriately any scarce cross border transmission capacity.

[2] Available www.ceer-eu.org

Regulators, the European Commission, Member States and all other stakeholders also emphasized during subsequent Florence Fora that any such arrangement for cross border tarification and inter-TSO compensation should be based on the principles of non-discrimination, cost reflectivity, simplicity and transparency. It follows for example that compensation due to a TSO for hosting a cross border flow should reflect the costs incurred by that TSO.

2.2. Considerations for ITC scheme

Any inter-TSO compensation scheme will in broad terms need to:

- determine the costs of the relevant parts of participating TSOs' transmission networks used to host cross border flows;
- allocate these costs to each TSO on the basis of the extent to which each TSO has hosted cross border flows; and
- finance these costs by identifying and charging on a volume basis those TSOs where cross border flows originate and/or end.

It will also be necessary for each TSO to recoup costs arising from transmission users connected to its network.

Following further discussion of these issues, regulators, the European Commission, Member States and others agreed with participating TSOs a voluntary interim inter-TSO compensation mechanism for the period 1 March 2002 to 31 December 2002. Further schemes were agreed on an annual and voluntary basis thereafter, and the number of participating TSOs has increased. The table sets out by country the participation of TSOs over the period.

2.3. Present ETSO scheme 2006

The present ETSO scheme for 2006 is, as those before it, a voluntary agreement among participating TSOs. Where relevant, regulatory authorities have approved TSO involvement and have provided data on allowed transmission network costs.

The remuneration for each ITC party for hosting transit is based on the product of a "transit key" and the cost of that party's "Horizontal Network". The transit key is simply, for each country, the ratio of transits across that country to transits plus internal consumption for that country, each expressed in GWh. For each ITC Party, transits are defined as the hourly minimum of total electricity exports or imports. For the purposes of settlement, the transit key is aggregated to a monthly value.

Table. Participation in Inter-TSO Compensation Mechanism Schemes – TSOs in countries.

March 2002 to December 2002	2003	2004	2005 and 2006
Austria ° Belgium France Germany Italy	Austria Belgium Czech Republic France Germany	Austria Belgium Czech Republic Denmark Finland	Austria Belgium Czech Republic Denmark Finland

Luxembourg[†] Netherlands Portugal Spain Switzerland	Greece* Hungary* Italy Luxembourg[†] Netherlands Portugal Slovakia* Slovenia Spain Switzerland	France Germany Greece Hungary Italy Luxembourg[†] Netherlands Norway Poland^ Portugal Slovakia Slovenia Spain Sweden Switzerland	France Germany Greece Hungary Italy Luxembourg[†] Netherlands Norway Poland Portugal Slovakia Slovenia Spain Sweden Switzerland

°joined 1 May 2002
*joined 1 July 2003
^joined 1 July 2004
[†]implicitly included in scheme via participation of German ITC Party

Elements of networks potentially used to host cross border flows, defined as transits, are identified using a method called “Allocation of Transit Flows” to give the “Horizontal Network” (HN). The costs of the HN were defined using each TSO’s "regulatory asset” base agreed by the relevant regulatory authority.

Contributions to TSOs requiring remuneration come from two parts. The first part comes from the sum of a uniform charge to “Net Flow”, and the second part from a contribution from perimeter countries, fixed on the basis of a fee (€1/MWh) related to declared imports from Perimeter Countries to ITC parties.

The scheme also includes the cost of transmission network losses. These were in previous versions of the method capped for each country at 15% of total HN costs.

The aggregate remuneration due to TSOs is estimated at €395 million for 2006.

3. Legal basis for ITC scheme

Regulation 2003/1228, entered into force 1 July 2004, provides for the treatment of a number of issues relating to cross border trade in electricity. In particular it establishes a legal requirement for the compensation of transmission system operators (TSOs) for costs incurred as a result of hosting cross border flows of electricity on their networks.

Article 3(1) requires that “Transmission System Operators shall receive compensation for costs incurred as a result of hosting cross-border flows of electricity on their networks.” Article 3(2) requires that this compensation “shall be paid by the operators of national transmission systems from which cross-border flows originate and the systems where those flows end.” The size of the cross border flows is according to Article 3(5) to be “determined on the basis of physical flows of electricity actually measured in a given period of time.”

Article 3(6) goes on to require that "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 infrastructure is used for the transmission of cross-border flows, in particular taking into account the need to guarantee security of supply. When establishing the costs incurred, recognised standard-costing methodologies shall be used. Benefits that a network incurs as a result of hosting cross-border flows shall be taken into account to reduce the compensation received."

The Commission is required, under Article 8, to adopt Guidelines setting out how the compensations and associated issues are to be treated, i.e. the ITC Guidelines. The ITC Guidelines must specify:

(a) details of the procedure for determining which transmission system operators are liable to pay compensation for cross-border flows including as regards the split between the operators of national transmission systems from which cross-border flows originate and the systems where those flows end, in accordance with Article 3(2);

(b) details of the payment procedure to be followed, including the determination of the first period of time for which compensation is to be paid, in accordance with the second subparagraph of Article 3(3);

(c) details of methodologies for determining the cross-border flows hosted for which compensation is to be paid under Article 3, in terms of both quantity and type of flows, and the designation of the magnitudes of such flows as originating and/or ending in transmission systems of individual Member States, in accordance with Article 3(5);

(d) details of the methodology for determining the costs and benefits incurred as a result of hosting cross-border flows, in accordance with Article 3(6);

(e) details of the treatment in the context of the inter-TSO compensation mechanism of electricity flows originating or ending in countries outside the European Economic Area;

(f) the participation of national systems which are interconnected through direct current lines, in accordance with Article 3. "

The Commission is to be assisted in its task of adopting ITC Guidelines by a Committee, and act in accordance with the procedure set down in Articles 5 and 7 of Decision 1999/468/EC. This procedure is more commonly known as Comitology. That is, the Commission may only amend the Guidelines following approval by a Committee of Member State representatives. In addition, it is intended that the establishment of ERGEG will assist the Comitology process by allowing the expert input of the EU gas and electricity regulators.

4. Inter-TSO compensation mechanism 2007 – ERGEG proposal

4.1. Introduction

This chapter sets out the process and reasoning behind ERGEG's preferred method for calculating inter-TSO compensations. The method forms the basis for the draft ITC Guidelines attached at the Annex of this paper.

The requirements of the Regulation, and the solutions adopted for the 2002-2006 schemes, imply that any ITC mechanism will require a solution or approach for two basic issues:

- Cost measurement - how to measure appropriately the unit costs of the parts of transmission networks associated with the hosting of cross border flows, using Long Run Average Incremental Costs (LRAIC) and existing infrastructure costs; and
- Cost allocation - how to identify the costs allocable to each TSO, which will depend on the extent to which flows on each TSO's network have arisen due to flows originating or ending from outside that TSO's network.

The cost allocation method together with the unit costs will determine the total size of the inter-TSO compensation fund.

There are a number of ways of approaching and assessing these two basic issues and hence for calculating compensations. A number of studies have been published that consider and evaluate alternative methods. These studies include November 2002 and 2003 reports[3] for the European Commission.

During 2005, work was undertaken by the European Commission and ERGEG, in collaboration with ETSO, to evaluate and further develop ITC Guidelines. In particular, the European Commission engaged consultants Consentec and Frontier Economics to assess ways of defining cost measurement, including the "LRAIC", and cost allocation among TSOs. ERGEG during 2005 worked with these consultants in order to understand better the issues associated with cost measurement and with a number of alternative methods.

4.2. ERGEG criteria

ERGEG has also developed and published its view on the criteria by which any method should be assessed, as well as the long term requirements of an ITC method. ERGEG's view is expressed in the Council of European Energy Regulators (CEER[4]) position paper[5] of March 2004.

ERGEG has adopted eight criteria, which can be summarized as follows:

(1) Legislative. Any method adopted must comply with the Directive and Regulation.

(2) The ITC mechanism shall take into account as far as possible all cross border flows, complying with Article 3 of the Regulation.

(3) The method for network allocation must be consistent with the fundamental approach inspiring the construction of the single market for electricity.

[3] *Report on Cost components of cross border exchanges of electricity* November 2002 prepared for European Commission by Ignacio Perez-Arriaga, Luis Olmos Camacho, Francisco Javier Rubio Oderiz of Instituto de Investigacion Tecnologica Universidad Pontificia Comillas. Available at:http://europa.eu.int/comm/energy/ electricity/publications/doc/revised_ccbt_final_report_v112_en.pdf

and

Extension of the project on Cost components of cross border exchanges of electricity November 2003 prepared for European Commission by Ignacio Perez-Arriaga, Luis Olmos Camacho of Instituto Investigacion Tecnologica Universidad Pontificia Comillas. Available at : http://europa.eu.int/comm/energy/ electricity /publications/doc/cbt_commillas_final_report.pdf

[4] CEER comprises EU Energy Regulatory Authorities plus those of Norway and Iceland. It is established as a not for profit body under Belgian law, and works in parallel with ERGEG.

[5] CEER Position Paper *Long term requirements of the Inter-TSO Compensation mechanism (ITC)* March 2004, available www.ceer-eu.org

(4) The method must be consistent with the other elements of cross-border transmission regulation: investment in new infrastructures, locational signals for operation and investment, congestion management, and network tariff harmonization.

(5) Economic. The method should for example be transparent, reasonable, and cost reflective, and be consistent with a regulatory regime that encourages efficient network operation and investment, and which provides no perverse incentives for transmission expansion.

(6) Technical soundness. The method should be based on sound engineering principles or otherwise be technically justified.

(7) Implementation. The method needs to be reasonably straightforward and cost effective to implement. For example, the volume of required data must be feasible and easy to process.

(8) Ability to be easily understood and verified. The basic concept of the method should for example be easy to explain and communicate.

4.3. Current ETSO scheme

The current 2006 ETSO scheme is described in Section 2.3 above. In ERGEG's view, on the basis that it is a voluntary scheme with no mandatory status, it is a pragmatic and transparent approach to the question of inter-TSO compensation. It is straightforward to understand and verify. It is a method with some years of experience of operation, and TSOs and market parties alike have in general expressed contentment with the operation of the scheme.

However in the light of the requirements of the Regulation and the ERGEG criteria, the 2006 ETSO method is not, in ERGEG's view, suitable in its present form for adoption as a mandatory scheme under the Regulation. The method for example makes no reference to Long Run Average Incremental Costs, and so this is a clear violation of the requirements of the Regulation.

In addition the method has some technical weaknesses regarding the way in which responsibility for flows are allocated. These weaknesses include:

- The size and extent of a TSO's grid should influence compensations received. The present ETSO scheme does not produce such an influence.
- Responsibility and funding for transit across any one TSO is shared equally across all other TSOs.
- Loop flows arising in one country which flow through other countries back to the country of origin are assessed as 'transits' through the originating country, and the TSO in this country may erroneously receive compensation for that.

4.4. ERGEG proposal for 2007

ERGEG's work during 2005 has considered and assessed the cost measurement issue and a number of methods for determining inter-TSO compensation. This consideration has included the work referred to in Section 4.1 above. ERGEG's assessments have been guided by ERGEG's adopted criteria. Regarding a cost allocation method, it is ERGEG's present view that the work has not identified any method with an overwhelming advantage or unambiguous fulfilment of the relevant criteria compared with any other method.

ERGEG therefore proposes that it will be appropriate for 2007 to introduce a mandatory scheme based on a further development and refinement of the present voluntary scheme devised by ETSO. ETSO have proposed a revision to its existing 2006 scheme for cost allocation and for losses in order to address as far as possible for now the perceived weaknesses. ETSO's revised scheme for cost allocation is known as "Improved Method of Infrastructure Cost Allocation" (IMICA). These refinements of the method will also reflect the requirements of the Regulation. A description of the IMICA method is given in the Explanatory Note of the Guidelines.

ERGEG has written draft ITC Guidelines that reflect ERGEG's preferred treatment of the cost measurement and cost allocation questions. These are attached at Annex to this paper, and they include an Explanatory Note. In the draft Guidelines ERGEG accordingly proposes the following treatment for cost measurement and cost allocation.

Cost measurement

Article 3(6) of the Regulation requires that network costs are measured on the basis of forward looking Long Run Average Incremental Costs (LRAIC), taking into account the cost of existing infrastructure and losses, and an appropriate proportion of the cost of existing infrastructure. That is, network costs are to be measured using some combination of the additional forward looking long run costs associated with hosting a (sustained) increment in flow on the network and the already incurred costs of the existing infrastructure.

On this basis, ERGEG proposes that transmission costs for the purposes of the ITC scheme are given as a weighted average of the level of regulated revenue for the relevant TSO and an estimate of LRAIC. The initial weighting given to the regulated value will be of the order of 80 per cent. ERGEG further proposes that each regulator provides an estimate of the LRAIC of building additional cross border transmission infrastructure, based on directly attributable variable costs.

Cost allocation

ETSO have proposed a revision to its existing 2006 scheme for cost allocation in order to address as far as possible the perceived weaknesses of the existing scheme. ETSO's revised scheme is known as "Improved Method of Infrastructure Cost Allocation" (IMICA) and it has been described in more detail in the Explanatory Note of the draft Guidelines. ERGEG proposes that the IMICA method is to be adopted for the 2007 scheme.

Losses

ERGEG proposes that impact of losses to a TSO's network is calculated using a load flow based method. A comparison of the network flows in the actual situation and in a situation when transit flows are removed will be made to define the impact on losses.

The price for loss energy is preferably taken from a quoted power exchange, from a recognised price reporting system or from any other market based tendering process for bulk energy for ex ante estimate. Ex-post the actually incurred costs shall be taken if the TSO is responsible for the purchase of losses, otherwise costs shall preferably be determined with reference to recorded short time prices, appropriately weighted over one year.

Next steps

During the public consultation ERGEG will continue its work in refining the Guidelines in co-operation with ETSO and the Commission. Topics to be discussed and defined in more detail include :

- further information and studies on technical aspects and operation of the method
- payment procedure – ex-ante and ex-post procedures
- sensitivity factors – number of snapshots required, definition of sensitivity factors

- treatment of different voltage levels in the model
- DC interconnectors – treatment should be defined in more detail (e.g. clarification that a non-TSO entity owning a DC interconnector will not be party to the ITC fund)
- interaction between ITC and Congestion Management income
- losses – allocation of losses defined in more detail

ERGEG welcomes any comments on these issues during the public consultation.

After public consultation ERGEG intends to revise the draft in the light of comments received, publish its final views and provide this final view to the European Commission as formal advice.

ERGEG will continue its work by monitoring the implementation of proposed Guidelines, working to improve the methods described in the Guidelines in the next few years, and returning in due course with further proposals.