

# ***Electricity transmission capacity rights: Making firmness a reality***

**November 2008**

EFET believes<sup>1</sup> that the sale by TSOs of fully firm cross border transmission rights is critical to ensuring robust and liquid cross border power trade in the European internal electricity market. The requirement that TSOs offer fully firm cross-border transmission capacity will provide the means by which market operators, national governments, the European Commission and regulators can ensure objective, non-discriminatory high voltage grid access beyond just national markets. **Such access will ensure generators and traders, supplying foreign markets by way of exports, enjoy the same rights and capabilities as do indigenous grid users, and that consumers enjoy a choice of imported supplies.**

## ***1. Description of Firm Transmission Rights***

For traders, “firm” transmission access means a physically or financially guaranteed right to nominate power for transmission between two price zones, i.e. between a (normally adjacent) export market and an import market. Firm transmission rights give certainty for traders on delivery and on the price for the transmission access. Once the market participant has booked the capacity, it will then be sure, that it will be able to nominate power between its chosen exporting and importing areas without being subject to any additional costs. If *force majeure* (as discussed below) is not applicable, then firm cross-border transmission access must be provided by the TSO as contracted through the auction, failing which, the TSO must compensate the market participant for the market value of lost capacity. The only justified reasons for curtailing transmission according to the EU Regulation 1228/2003 are the existence of an emergency situation or an event or circumstance constituting *force majeure*.

## ***2. Definition of Force Majeure***

The concept of firm transmission access naturally raises the question of the definition of *force majeure*, as *force majeure* is the only reason for curtailment without compensation at full market value. EFET recognizes that, until the main contractual terms are harmonised across the EU (a

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<sup>1</sup> See also our position papers “More transmission capacity for European cross border electricity transactions without building new infrastructure: Improving firmness of capacity rights and maximizing capacity allocation using new regulatory incentives for transmission system operators” (2006), and “Key principles in the treatment of electricity transmission capacity rights and their linkage to day ahead allocation mechanisms” (2007), available on [www.efet.org](http://www.efet.org)

potential role for ACER), the definition of *force majeure* will differ among various sets of auction rules. However, in our view, there are certain key elements that every *force majeure* provision must include.

*Force majeure* would be restricted to an actual event or circumstance which:

1. Has occurred (not one that is anticipated to happen or prevail in the future); and
2. Is objectively verifiable.

A *force majeure* event or circumstance must additionally:

1. Not be reasonably foreseeable by the claiming party;
2. Be beyond the reasonable control of the claiming party;
3. Be not reasonably avoidable by the claiming party; and
4. Impede the claiming party from performing its obligations.

A system emergency or “security event” (as the German TSOs tend to call it) declared by the TSO is not in and of itself *force majeure*, unless the specific event leading to the declaration of a system emergency is independently a *force majeure* event. TSOs retain discretion to declare a system emergency if needed, in order to maintain system reliability, even if a *force majeure* event has not occurred. For instance, the combination of planned maintenance outages and unseasonably hot weather in the summer could impact reliability, but would not constitute *force majeure*. Curtailment owing to system availability difficulties or for other system “reliability reasons”, as perceived by the TSO, should not justify a claim of *force majeure*.

EFET has considered the idea of including in the definition of *force majeure* lists of types of events which constitute, or do not constitute, *force majeure*. Since it is hard to make any positive or negative list exhaustive, we decided against the idea. As a practical matter, a TSO will declare a *force majeure* event when it determines it is able to do so under the provisions of the applicable auction rules. If the market participant agrees with the TSO’s assessment, the *force majeure* event is effective. If the market participant disagrees with the TSO’s assessment, the parties will work out a commercial resolution and/or the dispute resolution provisions of the auction rules may be triggered.

### **3. Effect of curtailment by TSO**

If firm capacity is curtailed as a result of *force majeure*, the TSO will be obliged to reimburse the affected party (or parties) all fees paid for the transmission service for the period of curtailment. If firm capacity is curtailed for any other reason, including for a system emergency or security event, the TSO must reimburse the affected party (or parties) the market value of the transmission service for the entire duration of curtailment.

### **4. Determining the market value of curtailed firm transmission capacity**

When cross-border auctions are explicit, transmission service will generally be physical and will be designated as between two markets. When cross-border auctions are implicit, transmission service will generally be financial, representing the difference in energy cost between two markets.

There could also exist a dual-purpose transmission right which is sold financially, but which could be converted to a physical flow right and scheduled by its holder. (We describe this

instrument in more detail in a contemporaneous EFET paper.) In any case, the value of the curtailed transmission capacity is the positive amount obtained by subtracting the energy price at export from the energy price at import for each hour of the curtailment, for the curtailed quantity:

$$\sum_{n=0}^j \max (0, \beta_1 - \beta_2) * V$$

Where:

j = hour of curtailment

$\beta_1$  = energy price import

$\beta_2$  = energy price export

V = quantity of curtailed transmission capacity

The energy price will depend on the moment when curtailment occurs, and represents the amount that the TSO must pay each affected market party for any curtailment of firm capacity that is not due to *force majeure*.

## **5. Tools a TSO can use to ensure firm transmission capacity**

As previously shown in EFET papers, TSOs are natural sellers of transmission capacity rights in the market and the only players in a position to offer the required firm transmission hedges to the market. TSOs have the ability to manage the associated risks and are the only players in the electricity sector that can do so. TSOs are also the only asset owners and/or operators with an in-built capability to offer primary, physical hedges against future congestion rents through the prior creation of fully firm cross border transmission capacity rights.

TSOs can find alternative ways of managing the risks involved, such as:

1. Rescheduling or re-dispatching (either domestic or cross-border)
2. Counter-trading
3. Coordinating dispatch or re-dispatch of power plants and transmission asset management with neighbouring TSOs
4. Repurchasing transmission rights by:
  - a. Posting offers to repurchase transmission rights on its auction platform, or
  - b. Buying back capacity rights on the secondary capacity market
5. Declaring congestion internally on their domestic grid, and thus creating additional price areas
6. Purchasing energy calls or selling energy puts
7. Conduct physical improvements to the transmission system, such as
  - a. Equipment replacement upgrades, or
  - b. Building new lines
8. Curtail and pay transmission service market value to affected market players; the payment being financed by revenues from prior sale of firm transmission rights.

We stress that the TSO responsible for providing firm transmission rights must receive incentives to use these tools in the most effective manner. The firm access obligation and the related execution costs provide the right economic signals to the TSO and market participants.

EFET believes that TSOs should be offering to market participants the maximum practicably attainable amount of cross border capacity, separately estimated for each trading day and hour

of the year on a fully firm basis. TSO should make sure that the allocated cross border capacity is then tradable in secondary markets, in the form of transmission capacity rights. These duties are already quite clearly set out in the EU Regulation 1228/ 2003, but they are not being honoured by most TSOs nor enforced by most energy regulators.

Therefore TSOs must be given incentives to maximise the cross border capacity they allocate to the market, for example by being allowed to profit from doing so<sup>2</sup>. Otherwise the congestion management income from auctions will not be used as efficiently as it could be, ultimately leading to less capacity being made available to the market and less competition<sup>3</sup>. Robust incentives based regulation becomes vital for achieving capacity maximisation and firmness.

## **6. Benefits of firm transmission capacity**

Ensuring firm transmission rights provides significant benefits for customers, TSOs, regulators and traders:

For **customers**, firm transmission rights facilitate access to cost effective power supplies; enhance service reliability; facilitate optimal use of the transmission grid; and ensure grid enhancements are performed at the lowest possible cost.

For **TSOs**, firm transmission rights provide increased revenues as grid users will pay more for firm capacity; encourage system optimisation; provide clear rules for provision of the service; ensure management of transmission risks by the most appropriate party; and facilitate the secondary market, giving TSOs more opportunities to manage capacity rights.

For **regulators**, firm transmission rights offer cost benefits for customers; provide transmission system optimisation at the right cost from a society perspective; and place the risk of ensuring firmness on the party that can take the necessary measures.

Finally, for **traders**, firm transmission rights provide the ability to supply at lower prices to customers and accurately hedge forward power positions; facilitate the development of secondary capacity market; and provide clear rules for provision of service.

## **7. Incentives to maximise total available NTC and available firm NTC**

Under EU Regulation 1228/2003, market based methods for capacity allocation is obligatory Paragraph 2.4 of the Congestion Management Guidelines (Regulation 1228/2003 as amended) requires that “TSOs shall optimise the degree to which transmission capacity is firm.”

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<sup>2</sup> **Ensuring that TSOs face appropriate regulatory incentives:** When choosing between curtailing cross border capacity or managing congestion by other means, TSOs should not enjoy a free option to curtail cross border capacity at the potential expense of foreign market entrants, only so that domestic generators can run their plant. The management of overall continental European constraints in such a manner comes at a significant cost to wholesale market participants trying to compete across national boundaries.

<sup>3</sup> **Ensuring that effective incentives based regulation of TSO services and charges can be developed for the entire internal power market,** not just within national boundaries. When price signals are available to TSOs, the TSOs will be aided in their judgments as to where congestions should be declared, whether or not to build new transmission lines and when and how to re-dispatch generating plant or counter-trade to reduce congestion. *It is indeed hard to see how EU national regulators collectively could discharge their obligation under Regulation 2003/1228 to enforce maximized availability of cross border capacity and firmness of allocation, if they do not formulate related incentives for TSOs to improve their performance in these respects.*

Paragraph 2.5 of the Guidelines requires that “the access rights for long and medium term allocations shall be firm capacity rights.” We conclude that, in order to ensure the maximum practicably attainable amount of cross border capacity, TSOs must offer longer maturity transmission rights, not just capacity at day-ahead, and indeed, in order to optimise the degree to which capacity is firm, TSOs must offer predominately longer term maturity transmission rights.

EFET suggests that TSOs should be required, for a transition period of three years, to offer 80% of their available transmission capacity as firm rights of one year or more. Upon completion of the three year transition period, a TSO shall have the right to discuss the mix of terms offered for firm transmission rights with market participants and regulators.

In order to give TSOs incentives to maximise the overall, available NTC amount and the amount of available NTC that is allocated to longer maturity capacity rights, TSOs should be permitted to retain a percentage of the revenues resulted from the sale of firm transmission rights as profit. Congestion management income is typically reserved for reducing grid access charges and therefore costs to customers. As a result, a TSO has no real incentive to maximise its transmission revenues by providing added value services or maximising system availability. Firm transmission service is more valuable to traders than non-firm service, and firm service for longer periods allows them to hedge long term positions in the energy market. Traders will pay more for firm service for longer durations. If TSOs are permitted to retain a portion of congestion revenues as profit, they will have the right incentive to offer firm products for longer time frames.

In order to facilitate firm transmission rights and maximise the availability of NTC for firm products, TSOs could be allowed to retain a percentage of “net congestion revenues” (resulted by performing compensation, cost of re-dispatch, countertrading), as follows:

1. Not more than 25% of net congestion revenues generated from the sale of firm transmission rights with a duration of more than one year; and
2. Not more than 5% of net congestion revenues generated from the sale of transmission rights with a duration of one year.

Net congestion revenues would be kept by the TSO in a specific net congestion revenue account. From this account, the TSO will pay any compensation due to traders for the curtailment of firm capacity rights. The account will be reconciled annually. If funds are still available in the account at the end of the period, the TSO would be allowed to keep the dedicated incentive portion of the funds as profit. If the account balance is negative at the end of the period, the TSO can apply to the regulator in order to recover the negative balance through transmission service rates, amortized over a period approved by the regulator.

## ***8. Customer perspective***

Consumers will likely see a decrease in costs as a result of TSOs offering firm transmission capacity rights. But transmission costs will only increase if the costs to ensure firmness are higher than the revenues derived by the TSO from selling firm transmission rights. Transmission costs represent only a small part of the overall consumer bill. Savings in generation cost (the largest non-tax part of the consumer bill) by the optimisation of capacity rights and thus more optimal generation merit order will further offset increases in transmission costs.

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