Commission for Electricity Regulation

An Coimisiún um Rialáil Leictreachais

Firm and Non Firm Access to the Transmission System

A Decision by the Commission for Electricity Regulation

CER/01/111
3rd September 2001

Introduction

This document contains a decision by the Commission for Electricity Regulation under Regulation 3(4) of SI No. 49 of 2000 – Electricity Regulation Act, 1999 (Trading Arrangements in Electricity) Regulations, 2000.

Commission's Decision

The Commission hereby decides that the modifications as specified below will be made to the Trading and Settlement Code [the Code].

Firm Financial Access

Firm financial access to the transmission system means that if a generator is constrained on or off (that is, increased or decreased and thereby not run at the level of its Generation Unit Nomination for reasons other than balancing supply and demand or changes in unit availability), it will receive constraint payments in the manner set down under the Code.

The Rules for firm financial access operate as follows:[1]

1. at the day ahead stage (D-1) a nomination (ANOME) is submitted for the volume of electricity that a generator wants to sell from each of its units. This nomination takes no account of any transmission constraints or system operational issues. After the event this nomination is adjusted (by the Ex-Post Unconstrained Schedule or EPUS) to take account only of forecast errors in unit availability and demand (XNOM);

2. during the day the Transmission System Operator (TSO) will dispatch units, taking account of the units' ANOMEs, the INC and DEC prices offered for the units, transmission constraints and system operational conditions;

3. a separate ex-post reconciliation takes place between the generators and the TSO for any differences between a unit's XNOM, its Instructed output and its actual output (Instructed and Uninstructed Imbalances);

4. this results with the generator having a quantity of electricity to sell, XNOM, in the market .

Thus, the TSO has granted firm financial access for the unit's tradable quantity (XNOM) through the mechanisms of the Instructed and Uninstructed Imbalances.

Non-firm Financial Access

When a generator connects a new unit to the transmission system the Connection Agreement will specify the amount of firm and non-firm access available to that that unit. The amount of firm access initially granted under the Connection Agreement is the Shallow Connection Capacity (SCC). The unit then has non-firm access from this level (SCC) up to the Maximum

[1] This reflects the current operation of settlement in the Trading and Settlement Code and Rules.

Export Capacity (MEC) as stated in the Connection Agreement. The Connection Agreement will also specify when the value of SCC changes and the unit receives firm access for the full amount of the MEC. A generating unit has no right of access to the transmission system for output above the MEC stated in the Connection Agreement (except where agreed with the TSO [2] for additional non-firm access).

The Rules for non-firm financial access will operate as follows:

1. at the day ahead stage the non-firm Unit submits an ANOME value, a set of Idling, INC, DEC and Start Up Prices and its Operating Characteristics;

2. in preparing the Generation Schedule and in making dispatch decisions, TSO will treat the non-firm Unit in the same way as firm Units, save that the Non-Firm Unit would be the first Unit considered if a Unit must be DEC'd to relieve a transmission constraint (to the extent of it's non-firm access);

3. a non-firm ANOM (ANOMN) of the non-firm Unit (which will be the basis of the Unit's ANOM for the EPUS run) is calculated. The Unit's non-firm ANOM (ANOMN) is the lower of ANOME (the non-firm Unit's Ex-Ante Nomination) and the greater of the Unit's Instructed Quantity, (IQ)[3] and the Shallow Connection Capacity.
   Thus ANOMN = min[ANOME, max[IQ,SCC]];

4. the EPUS run will then carried out in the normal way save that for the non-firm Unit the Availability for EPUS (EAV) shall be set equal to the lower of the Unit's Actual Availability (AA) and the greater of the Unit's Instructed Quantity, and the Shallow Connection Capacity. Thus EAV = min[AA, max[IQ,SCC]];

5. the Actual Availability for a trading period will be calculated as the time weighted average of the unit's availability over the trading period;

6. EPUS will then be run as normal (save that the values for any non-firm units their ex-ante nomination and availability will be derived as above) and the non-firm unit will have the resulting XNOM to trade in the market in the same way as any firm unit. Settlement for imbalances (between XNOM, instructed quantity and actual generation) will then take place as normal, including for those non-firm units.

To improve the modelling for the calculation of XNOM in general, the unit availability figure for input to EPUS will, for all firm units, for any given trading period, be the Actual Availability, as discussed above (i.e. the time weighted average availability over that trading period). Presently the value of availability used in the EPUS run is, for a given trading period, the value

[2] While still recognising the right of appeal to the Commission in the event that agreement can not be arrived at.
[3] IQ is measured in MWhrs, therefore in the calculations it will be converted to the equivalent MW value (by division by 0.5).

applying immediately preceding the start of the trading period and changes within the period are ignored.

Background

The Commission directed ESB in December 1999 to make connection offers to the transmission system on a deep rather than a shallow basis.[4] This meant that new generation could gain access to the system earlier because once the shallow connection work is completed, the power station can be said to be connected to the system (and exports from the station are possible). However, until the deep connection work is completed, the TSO may not be able to offer firm transmission system access at the full connection capability in all instances (depending on where the generator is situated). The Commission therefore embarked upon a project to analyse possible avenues of addressing this issue.

In the Commission's paper on the allocation of gas capacity[5], it was proposed that new units could be granted non-firm access to the transmission system. This non-firm access would apply after any shallow connection work is completed but before the completion of deep connection work. The relevant section of the Commission's paper is as follows:

> *4.2.2.2 Despatch of Generating Stations and System Constraints*
> A further consequence is that generating stations, which have a shallow connection to the gas and/or the electricity network but require further deep reinforcements to operate on a firm basis, may nevertheless be despatched on a non-firm basis. Until the necessary deep reinforcements have been carried out, these generating stations may have to be constrained to reduce output or to desynchronise. The Trading and Settlement Code and the associated settlement system are currently based on firm financial access for generators to the transmission system. Allowing for firm and non-firm access would be a significant modification to the current market rules and systems. Therefore, the question of constrained-off payments should not arise.

The Commission issued a draft direction under Section 34(1) of the Electricity Regulation Act, 1999 regarding Connection to and use of Transmission System on the 12th December 2000.[6] This draft direction stated that a consultation paper discussing various methods of providing access to the transmission system would be published.

The Commission issued a consultation paper entitled 'Firm and Non-Firm Access to the Transmission System' on the 15th January 2001.[7] A summary of comments received on the consultation paper was subsequently published.[8]

The Commission invited all respondents to two meetings in the Commission offices, on the 29th March 2001 and 12th April 2001 respectively. The issues and comments received regarding the consultation paper were discussed and possible avenues for going forward were set out.

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[4] CER Direction of 23rd December 1999 to ESB.
[5] CER/GAS/00/01, dated 27 April 2000.
[6] http://www.cer.ie/cer0085.pdf
[7] http://www.cer.ie/cer0128.pdf
[8] http://www.cer.ie/cer0144.pdf

The Commission issued a Draft Direction on the 24th May 2001, which set out rules governing access by new generators to the transmission system.[9] The Commission published its final determination on the 19th June 2001 – Direction Firm and Non-firm Access to the Transmission System.[10] This set out the rules for the application of firm and non-firm access.

The purpose of this decision is to replicate those rules where appropriate in the Trading and Settlement Code to allow the concepts of firm and non-firm financial access to the system to operate.

The terms firm and non-firm do not imply any particular level or certainty of physical access granted to the transmission system. They refer to the type and level of financial compensation that may be granted to a Generator if its Unit is granted less than full technical access to the Transmission System.

A unit may first gain access to the transmission system in a wholly non-firm capacity (i.e. where the Shallow Connection Capacity equals zero), this may upgrade to part firm and part non-firm (A Shallow Connection Capacity between zero and the Maximum Export Capacity) and then to all firm. Alternatively, it is also possible that all dates will converge and the unit will have firm financial access from its shallow connection to the system. All permutations of this nature were dealt with by the Commission's Direction referenced above. [11]

The issue of part firm and part non-firm may arise in a case where the TSO can only guarantee a certain amount of transmission access to a new generator and the rest must remain non-firm until the deep reinforcements are progressed or where the Generator did not secure enough connection capacity under its original connection agreement to allow the units in the station to run at full load and an additional/revised agreement is issued providing non-firm access for the new additional capacity. Under these scenarios there may, nevertheless, be times when the TSO could dispatch the units to run at a level greater than the usual amount the grid can take without deep reinforcements or the unit's Shallow Connection Capacity and this access would be treated as non-firm access.

Tom Reeves

Member of the Commission

3rd September 2001

[9] http://www.cer.ie/cer0160.pdf
[10] http://www.cer.ie/cer0172.pdf
[11] http://www.cer.ie/cer0172.pdf