



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

**The Treatment of a CHP Supplier's and Generator's
Balancing Requirements under the Trading and
Settlement Code**

Decision Paper

CER/03/176

23rd JULY 2003

Introduction

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

Commission’s Draft Decision

The balancing requirements for CHP suppliers and generators will be incorporated into the Code and will be as follows:

Balancing for CHP suppliers:

1. In its first year of trading, a CHP supplier has a requirement to balance CHP purchases (deemed to be all purchases from other CHP suppliers or CHP generators) plus CHP imports less purchases of ‘Non CHP top-up’, with their total aggregated customer demand plus exports and CHP sales (deemed to be total sales to other CHP suppliers) over a year from the first day of trading. ‘Non CHP top-up’ is defined as top-up which is purchased other than to meet a deficit between CHP Sources (CHP Purchases plus CHP Imports) and CHP Uses (Customer Demand plus CHP Sales plus Exports). The equations setting out this balancing requirement are set out in Appendix 1.

This balancing requirement will be limited to 95 per cent of the suppliers demand, this means that a 5 per cent margin of error will be permitted in recognition of the difficulty of balancing a suppliers demand on a certain date and time.¹ In addition, over the same period, the CHP Supplier’s total purchases of top-up must not exceed the sum of its total aggregated customer demand plus exports plus CHP sales.

For the purposes of tracking and balancing, a supplier’s customer demand will be the aggregate of all the demands of its final customers, except where some (or all) of a specific final customer’s demand is met by on-site generation, in which case the net import across the site boundary will be used.

In the case of non-quarter hour metered customers the demand shall be the profiled demand, which has been settled at year end

¹ This value is subject to change by the Commission as it sees fit.

plus or minus all reconciliations that have been settled up to the end of the month of the reconciliation year (that is, the year of trading). Any further reconciled volumes will be added to the balancing requirement of the supplier for the following year.

2. Should a CHP supplier exceed the 5% margin of error in its first year of trading, it is required to balance this excess in the following year of trading. Thus the supplier will be required to have a corresponding excess (i.e. the amount in excess of the 5% margin) of CHP purchases plus CHP imports over the total aggregate customer demand plus exports and CHP sales between the first and second year of trading. This is in recognition of the special circumstances, which may face a supplier during its first year of trading.

Balancing for CHP generators:

1. A CHP generator has a requirement to balance Top Up purchases with CHP energy, which is spilled. A CHP generator has a requirement to balance its sales to CHP suppliers with its CHP tradable quantity. This balancing requirement will be limited to 92 per cent of the generator's rated capacity, this means that an 8 per cent margin of error will be permitted in reflection of a CHP generators outage probability.³ The balancing period will be a year and the date will fall due on the anniversary of the commencement of trading.

Background

This draft Decision finalises the balancing positions for CHP suppliers and generators. This issue was previously addressed in the Commission's earlier Decision CER/01/155, dated 9th November 2001, "The Treatment of Combined Heat and Power (CHP) under the Trading and Settlement Code".

Condition 20 of a Licence to Supply Electricity applies to Licensees issued with a Licence to Supply Electricity under Section 14 (1) (d) of the Electricity Regulation Act, 1999 ["the Act"], termed "CHP" suppliers by the Trading and Settlement Code ("the Code").

² This value is subject to change by the Commission as it sees fit.

³ This value is subject to change by the Commission as it sees fit.

An applicant issued with a supply licence by the Commission under Section 14 (1) (d) of the Act, as amended by the Electricity (Supply) (Amendment) Act, 2001, is defined as one that is enabled:

“...to supply electricity to final customers which in aggregate does not exceed the amount of electricity which is available to the supplier and which is produced using combined heat and power or electricity purchased, in place of such electricity, in accordance with the trading arrangements provided for in regulations to be made by the Commission under section 9(1)(d)”

Condition 20 of a Licence to Supply Electricity is as follows:

“The Licensee shall, each year within 90 days of the anniversary of the date of issue of the licence, deliver to the Commission a certificate, duly audited, specifying the source of the electricity supplied for the previous year ending on the anniversary of the date of issue of the licence. This certificate shall also certify that the Licensee has, for the previous year to the anniversary of the date of issue of the licence, complied with the electricity balancing criteria, pursuant to the Trading and Settlement Code.”

Commission’s Interpretation of Condition 20 of a Licence to Supply Electricity

The Commission considers it vital to ensure that CHP suppliers comply with the principle and requirement to supply no more electricity to final customers than that which is available to them using CHP energy on an annual basis from their start date of trading. This is the basis on which the applicant receives a supply licence from the Commission and on which it trades under the Code.

In addition:

- The Commission reserves the right to investigate a Licensee’s activities, where a CHP supplier supplies up to 5% more electricity to final customers than that which is available to it using CHP energy, to uncover whether or not this discrepancy is the result of forecasting and other such errors or came about as a result of deliberate actions.
- In the event that a supplier fails to adequately comply with the criteria laid down in this Decision, the Commission may issue a direction under Section 24 of the Act, a determination under Section 25 of the Act or an order under Section 26 of the Act, to

ensure that the licence holder takes all measures necessary to comply with Condition 20. This could include requiring the supplier to cease from supplying any additional customers, with immediate effect. Under a Licence to Supply Electricity, the Commission has powers to revoke a licence if the Licensee fails to comply with a direction, determination or order under the Act.

Reasoning behind the Commission's Decision

However, the Commission recognises that it may be difficult for a CHP supplier to fully comply with Condition 20 and balance exactly on an annual basis on a certain date. Furthermore, for a start-up supplier operating in its first year, exact balancing may be more difficult to achieve. This is because such a supplier will typically need to particularly concentrate on customer acquisition so as to achieve economies of scale, making exact co-ordination of its CHP purchases with CHP sales more problematic.

The currently implemented equations for CHP Supplier balancing reflect a refinement on the CER decision of 9th November 2001 (<http://www.cer.ie/CER01155.doc>) to prevent potential abuses of the CHP balancing regime. The marked-up version of Appendix 7 approved by the CER reflects these refinements.

The two balancing requirements are:

$$\mathbf{CHP\ purchases + CHP\ imports - Top-up \geq Demand + CHP\ sales + Exports}$$

and

$$\mathbf{Top-up \leq Demand + CHP\ sales + Exports}$$

The second balance requirement means that top-up cannot in total exceed the total uses of CHP. This is a supplementary balance provision designed to prevent suppliers using a CHP licence solely to access first tier top-up and sell it into the 'brown' market.

However, this has proved to be overly restrictive and could prevent participants who are in balance from balancing. An example of this is provided by the Settlement System Administrator and contained in Appendix 1. Thus the Commission has changed the equation to prevent churning of Top Up but to not restrict the balancing of CHP participants. The new equation is contained in Appendix 1.

Eugene Coughlan
Deputy Commissioner for Energy Regulation
23rd July 2003

APPENDIX I

Example

A CHP Supplier purchases 100 GWhrs of CHP in the balance period and sells 100 GWhrs of CHP to customers.”

What is this CHP Supplier’s balance position ?

The supplier’s balance position depends on the amount of top-up taken. The supplier must purchase enough CHP to balance their top-up purchases over and above any CHP they purchase to sell on (to final customers etc.). Thus though the CHP supplier may balance CHP sources with CHP uses they must also (in addition) purchase CHP to offset their top-up purchases.

However the provision of a tolerance (or margin) in the balancing requirement specifically allows for the fact that it is difficult to balance exactly in every trading period and that some purchases of top-up may be required.

There is also the second balance requirement that top-up cannot in total exceed the total uses of CHP. However this is a supplementary balance provision designed to prevent suppliers using a CHP licence solely to access first tier top-up and sell it into the ‘brown’ market. It is not binding in this particular instance.

Taking the example provided above - the supplier has 100GWhrs of CHP sources and 100GWhrs of CHP uses. However the same supplier could also have purchased, for example, 90GWhrs of top-up at the first tier price and sold it on as non-CHP. Unless top-up is included this would not be caught. In the given example it is probable that the CHP supplier would have some requirement to purchase top-up (due to the difficulty in balancing sources and uses exactly in every trading period) and this should be taken into account. The provision of a tolerance is specifically there for this purpose. This allows the supplier a 5% margin (on customer demand). Thus in the example provided, the CHP supplier would be in balance if they purchased up to 5GWhrs of top-up (assuming all 100GWhrs is customer demand).

Thus in this case the equation would look like

- $\text{CHP Sources} - \text{Top-up} \geq \text{CHP Uses}$
- $100\text{GWhrs} - 5\text{GWhrs} \geq 0.95 \times 100\text{GWhrs}$
- $95\text{GWhrs} \geq 95\text{GWhrs}$
- TRUE => CHP Supplier is in balance.

If they purchased more top-up than this then they would be out of balance and hence would need to secure some additional sources of CHP to return to a balanced position.

However, considering the same supplier, however with a different trading pattern. If this CHP supplier purchased the 100GWhrs of CHP in the first six months of the year and spilled it all (i.e. had no CHP uses) and then had

100GWhrs of demand (i.e. CHP uses) in the second 6 months of the year, but no CHP sources, and bought 100GWhrs of top-up (at the first tier price) to supply this demand, would not meet the current balance requirements.

New Equation

The Settlement System Administrator sent the equations below to the CER for consideration on 19 February 2002.

The first CHP balancing equation as it currently stands is:

$$CHP\ Purchases + CHP\ Imports - Top\ Up \geq CHP\ Demand + CHP\ Exports + CHP\ Sales$$

or more simply:

$$CHP\ Sources - Top-up \geq CHP\ Uses$$

The top-up term is redefined to be top-up purchased and used for Non-CHP purposes in any given trading period. To achieve this it is necessary to define what is meant by Top-up used for non-CHP purposes (“non-CHP Top-up”).

At a high level it can be considered to be the top-up purchased other than to meet a deficit between CHP uses and CHP sources. Thus, in any trading period where top-up is purchased the portion of that top-up, over and above the difference between the CHP uses and CHP purchases, is taken as non-CHP top-up. This is then the portion of top-up brought into the balance equation. Thus the definition of ‘non-CHP top-up’ is:

$$'non-CHP\ top-up' = \max[Top\ Up - \max[(CHP\ Sources - CHP\ Purchases), 0], 0]$$

and the first balance equation becomes:

$$CHP\ Sources - non-CHP\ Top-up \geq CHP\ Uses$$

or

$$CHP\ purchases + CHP\ imports - non-CHP\ Top-up \geq Demand + CHP\ sales + Exports$$

The second balance equation remains unchanged as:

$$Top-Up \leq Demand + CHP\ Sales + Exports$$