



LOW CARBON
CONTRACTS COMPANY

Strike Price Adjustment Guidance

Version 2

Issued on 19 July 2018

Applicable to Investment Contracts, CFD Agreement and CFD Standard Terms and Conditions issued on August 2014 and March 2017

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Disclaimer

This guidance does not and is not intended to supersede or replace the provisions of the CFD. This guidance does not constitute legal or investment advice and should not be relied upon as such. Generators should consult their professional advisors where they require advice, whether legal or otherwise. LCCC further reserves the right to amend this guidance and any associated guidance from time to time.

This guidance should not be viewed as in any way restricting LCCC in the nature, type and/or amount of evidence, information and documentation it will require to satisfy itself of the Generator's fulfilment of the Operational Conditions Precedent, nor as to the nature, level and timing of our consideration or reconsideration of the evidence that is provided. LCCC reserves the right at any time to request further or additional evidence, and to review or reconsider the evidence already provided.

Section 1: Introduction

LCCC performs the Strike Price Adjustment (SPA) calculations annually as per the relevant CFD clauses and communicates the revised Strike Prices to the Generators by the 5th business day post the 1st of April each year.

This guidance is intended to help generators understand the series of calculations that result in a Generators annual adjusted Strike Price.

- 1.1 This document provides non-binding guidance and simplified worked examples in respect of various Strike Price adjustments.
- 1.2 Strike Price adjustments covered by this guidance include:
 - Indexation Adjustment
 - TLM(D) Strike Price Adjustment
 - Balancing System Charge Strike Price Adjustment
- 1.3 Appendix A lists the publicly available data sources that the SPA calculations utilise.
- 1.4 In addition, LCCC publishes on the EMRS website the (<https://www.emrsettlement.co.uk/settlement-data/settlement-data-cfd-generators/>) interim-calculations; essentially these are the results per calculation step which at the end of the process leads to the revised Strike Price. This allows Generators who wish to perform their own calculations with some useful checkpoints.

Section 2: Definitions

- 2.1 The “CFD Counterparty” is the Low Carbon Contracts Company Ltd.
- 2.2 Please refer to Defined terms used in this guidance and not defined herein should be given the meaning provided in the “CFD” (which is comprised of the CFD Agreement and the CFD Standard Terms and Conditions as published by the Department of Energy and Climate Change on 29 August 2014¹ and in March 2017²). This guidance is also applicable to Investment Contracts. However, Generators with Investment Contracts are advised to review the equivalent clauses.
- 2.3 In respect of the Investment Contracts, also considered are the Amended Notification (from DECC, dated July 2014); and the Amended Notification (from LCCC, dated August 2014) (together these form an “Investment Contract” or “IC”).

¹ Department of Energy and Climate Change, Contract for Difference: Standard Terms and Conditions, published in 29 August 2014.

² Department for Business, Energy & Industrial Strategy, Contracts for Difference: standard terms and conditions, version 2 published in 13 March 2017.

Section 3: Indexation Adjustment

3.1 Each calendar year the Low Carbon Contracts Company (LCCC) calculates an Indexation Adjustment which becomes effective on the first day of the Summer Season (starting 1 April) of such year.

This Indexation Adjustment is calculated as a function of the Initial Strike Price, the sum of the Strike Price Adjustments applicable, and an Inflation Factor. The calculation is based on the following formula³:

$$\text{Strike Price} = (SP^{base} + ADJ_t^{base}) \times \Pi_t$$

where:

SP^{base} is the Initial Strike Price;

ADJ_t^{base} denotes the sum of the Strike Price Adjustments applicable to Settlement Unit (t), expressed in Base year terms; and

Π_t is the Inflation Factor applicable to Settlement Unit (t).

It should be noted that for the purposes of this calculation, both the Initial Strike Price and the Strike Price Adjustments are expressed in Base Year Terms which, in the case of Strike Price Adjustments, may require a further calculation (this is explained in more detail below).

As per the formula above, the Initial Strike Price plus the sum of the Strike Price Adjustments is multiplied by the Inflation Factor. The result of this calculation is the indexed Strike Price which applies from the Indexation Anniversary⁴.

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
SP_{base}	£100/MWh	Use the Initial Strike Price as defined in the relevant contract
ADJ_{base}^t	£2.55/MWh	Sum of the Strike Price Adjustment applicable, and expressed in Base Year Terms
Π_t	1.05	Inflation Factor applicable, illustrative
Strike Price	$(£100/\text{MWh} + £2.55/\text{MWh}) \times 1.05$ = £107.68/MWh	from the relevant Indexation Anniversary

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist

³ See CfD: Condition 14, 20
See IC: Condition 14, 19

⁴ See CfD: Condition 14.4, 20.4
See IC: Condition 14.4, 19.4

Section 4: Base Year Terms

4.1 For the purposes of calculating the Indexation Adjustment, any Strike Price adjustments which are not expressed in Base Year Terms must be ‘deflated’. This is done as per the formula below⁵:

$$ADJ_{base} = ADJ_x \times \frac{CPI_{base}}{CPI_x}$$

where:

ADJ_x is the Strike Price Adjustment (expressed in £/MWh) in any year (x);

CPI_{base} denotes the Base year CPI; and

CPI_x denotes the arithmetic mean of the monthly CPI over the year (x);

It is noted that the monthly CPI, as published by the Office for National Statistics, is used as an input into the above formula⁶.

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
ADJ_x	£1.50/MWh	Strike Price Adjustment in year (x); e.g. a TLM(D) Adjustment in year 2015
CPI_x	128.03	Arithmetic mean of CPI in the calendar year (X), e.g. in 2015
CPI_{base}	121.0	Base Year CPI, as defined in the contract, e.g. October 2011
ADJ_{base}	$= \text{£}1.50/\text{MWh} \times \frac{121.00}{128.03}$ $= \text{£}1.42/\text{MWh}$	from the relevant Indexation Anniversary

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

⁵ See CfD: Definitions “Base Year Terms”

See IC: Definitions “Base Year Terms”

⁶ At the time of this report, monthly CPI could be sourced from the time series data published by the ONS under the D7BT category via the below website:
<https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/d7bt>

4.2 The Inflation Factor as used in the calculation of the Indexation Adjustment, is calculated as per the formula below⁷:

$$\Pi_t = \frac{CPI_t}{CPI_{base}}$$

where:

Π_t is the Inflation Factor;

CPI_t denotes the CPI for January of the relevant calendar year or, where the CPI for January is not published by the first (1st) day of the Summer Season in such calendar year, the Reference CPI, which is applicable to the Settlement Unit (t); and

CPI_{base} denotes the Base Year CPI; or

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
CPI_t	127.1	CPI for January of the relevant year, e.g. January 2015
CPI_{base}	121.0	Base Year CPI, as defined in the contract, e.g. October 2011
Π_t	$\frac{127.1}{121.0} = 1.05$	This represents the relevant Inflation Factor which is used in the calculation of the Indexation Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

It is noted, that where there has been a re-basing of the index prior to the Indexation Anniversary, a different formula is used. This is discussed in more detail below.

4.3 Where the CPI index is re-based by the ONS, and such re-basing has taken effect in the twelve months prior to the Indexation Anniversary, a different formula, being the re-basing formula set out at limb (B) of the definition of “Inflation Factor”, should be used.

This re-basing formula makes a conversion of the Base Year CPI as defined in each contract, as this will be presented using a different ONS index base than the applicable CPI of the calculation period⁸. For example, the Base Year CPI may be presented on the basis of 2005=100, while the applicable CPI may be presented on the basis of 2015=100. Where such a re-basing has occurred, the following formula is used⁹:

⁷ See CfD: Definitions “Inflation Factor” (A)
See IC: Definitions “Inflation Factor” (A)

⁸ In the event of a rebasing of the index, the user will need to use both the monthly CPI published under the previous index as well as the monthly CPI data published under the rebased index. At the time of this report, the CPI was last rebased (as 2015=100) in January 2016. At the time of this report, monthly CPI data published under the previous index (as 2005=100) could be sourced from the archived time series data published by the ONS under the D7BT category via the following website: <http://webarchive.nationalarchives.gov.uk/20160105160709/http://ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-323665>

At the time of this report, monthly CPI as per the rebased index (2015=100) could be sourced from the time series data published by the ONS under the D7BT category via the below website: <https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/d7bt>

⁹ See CfD: Definitions “Inflation Factor” (B)
See IC: Definitions “Inflation Factor” (B)

$$\Pi_t = \frac{CPI_t^{new}}{CPI_{base}^{old}} \times \frac{CPI_b^{old}}{CPI_b^{new}}$$

where:

Π_t is the Inflation Factor;

CPI_t^{new} is the CPI applicable to Settlement Unit (t), using the new (re-based) index

CPI_{base}^{old} is the Base Year CPI, using the original index;

CPI_b^{old} is the CPI in the month in which the re-basing has occurred, using the original index; and

CPI_b^{new} is the CPI in the month in which the re-basing has occurred, using the new (re-based) index;

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
CPI_t^{new}	99.8	Applicable CPI, eg for Feb 2016
CPI_{base}^{old}	121.0	Base Year CPI, using the old index
CPI_b^{old}	127.5	CPI in month of rebasing, using original index
$CPI_b^{old} 10$	99.5	CPI in month of rebasing, using new index
Π_t	$\frac{99.8}{121.0} * \frac{127.5}{99.5} = 1.06$	This represents the relevant Inflation Factor which is used in the calculation of the Indexation Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

Section 5: TLM(D) Strike Price Adjustment

5.1 **Note: Only applicable to generators which receive a TLM(D) Strike Price Adjustment**

5.2 Each year a TLM(D) Strike Price Adjustment is calculated, which then applies from the relevant Indexation Anniversary.

The TLM(D) Strike Price Adjustment is based on the TLM(D) Charges Difference, which in turn is calculated as per the formula below¹¹:

$$TCD = (SP_{IB} - IBC) \times \left(\frac{TLM_A - TLM_I}{1 - TLM_A} \right)$$

where:

TCD is the TLM(D) Charges Difference;

SP_{IB} is the Indexed Base year Strike Price, but for this purpose, references to CPI_t in the definition of Inflation Factor shall be to the CPI for January in the TLM(D) Charges report Year, save where the CPI for January is not published by the first (1st) day of the Summer Season in such TLM(D) Charges Report Year, in which case CPI_t shall be the Reference CPI;

IBC is the Base Year CPI, using the original index;

TLM_A is the actual TLM(D) Charge (expressed as an absolute decimal) in respect of the TLM(D) Charges Review Period; and

TLM_I is the Initial TLM(D) Charge (expressed as a decimal) in respect of the TLM(D) Charges Review Period; and

Each of the components in the formula above is considered in further detail below.

5.3 The Indexed Base Year Strike Price is calculated as per the formula below, noting that for the purposes of CPI_t , the CPI for January in the TLM(D) Charges Report Year is used¹².

$$SP_{IB} = \Pi_t \times CP_{base}$$

where:

SP_{IB} is the Indexed Base Year Strike Price;

Π_t is the Inflation Factor; and;

CP_{base} is the Initial Strike Price;

¹¹ See CfD: Condition 47.1 (E)

See IC: Condition 45.2 (G)

¹² See CfD: Condition 47.1 (E); Definitions "Inflation Factor"

See IC: Condition 45.2 (G); Definitions "Inflation Factor"

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
Step 1: Calculate the Inflation Factor		
TLMD Charges Report Year	1 Jan 2015 to 31 Dec 2015	Illustrative
CPI_t	127.1	CPI for January of the relevant year, e.g. January 2015
CPI_{base}	121.0	Base Year CPI, as defined in the contract, e.g. October 2011
Π_t	$\frac{127.1}{121.0} = 1.05$	This represents the relevant Inflation Factor which is used in the calculation of the Indexation Adjustment
Step 2: Calculate the Indexed Base Year Strike Price		
SP_{base}	£100.00/MWh	Use the Initial Strike Price as defined in the relevant contract
Π_t	1.05	Inflation Factor applicable, as calculated above
SP_{IB}	£100.00/MWh * 1.05 = £105.00/MWh	This represents the Indexed Base Year Strike Price for the purposes of calculating the TLM(D) Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

5.4 The Indexed Initial Balancing System Charge is calculated as per the formula below. It is noted that for the purposes of CPI_t , the CPI for January in the TLM(D) Charges Report Year¹³ is used, and for the purposes of CPI_{base} , the CPI for the penultimate month of the Initial Balancing System Charge Window is used¹⁴.

¹³ See CfD: Condition 47.1
See IC: Condition 45.2

¹⁴ See CfD: Condition 47.1 (E); Condition 46.1 (D)
See IC: Condition 45.2 (G); Condition 44.2 (F) (also see *DECC Amendment to the IC*)

$$IBC = \Pi_t \times I$$

where:

IBC is the Indexed Initial Balancing System Charge;

Π_t is the applicable Inflation Factor, but for this purpose references to:

- (a) Base Year CPI (CPI_{base}) in the definition of Inflation Factor shall be to the value of the CPI for the penultimate month of the Initial Balancing System Charge Window; and
- (b) CPI_t in the definition of Inflation Factor shall be to the CPI for January in the Balancing System Charge Report Year save where the CPI for January is not published by the first (1st) day of the Summer Season in such Balancing System Charge Report Year in which case CPI_t shall be the Reference CPI; and

I is the Initial Balancing System Charge;

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
Step 1: Calculate the Inflation Factor		
TLMD Charges Report Year	1 Jan 2015 to 31 Dec 2015	Illustrative
Balancing System Charge Report Year	1 Jan 2015 to 31 Dec 2015	Illustrative
Initial Balancing System Charge Window	1 Mar 2013 to 31 Feb 2014	Illustrative
CPI_t	127.1	CPI for January of the relevant year, e.g. January 2015
CPI_{base}	126.7	CPI for the penultimate month of the CFD balancing system charge window, e.g. Jan 2014
Π_t	$\frac{127.1}{126.7} = 1.00$	Use the Initial Strike Price as defined in the relevant contract
Step 2: Calculate the Indexed Initial Balancing System Charge		
I	£1.00/MWh	Use the Initial Balancing System Charge as defined in the relevant contract
Π_t	1.00	Inflation Factor applicable, as calculated above
IBC	£1.00/MWh * 1.00 =£1.00/MWh	This represents the Indexed Initial Balancing System Charge for the purposes of calculating the TLM(D) Adjustment

5.5 The Initial TLM(D) Charge is set out in the relevant contract¹⁵.

The Actual TLM(D) Charge is sourced from publicly available data published by a BSC Company for the period from 01 January in the calendar year immediately preceding the relevant TLM(D) Charges Report Year to 31 December in such calendar year^{16,17}.

5.6 The TLM(D) Charges Difference is calculated as per the formula presented in section 5.2 and the various terms discussed above.

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
SP _{IB}	£100.00/MWh	The Indexed Base Year Strike Price for the purposes of calculating the TLM(D) Adjustment, as calculated above
IBC	£1.00/MWh	The Indexed Initial Balancing System Charge for the purposes of calculating the TLM(D) Adjustment, as calculated above
TLM _A	0.0100	Actual TLM(D) Charge sourced from publicly available data, illustrative
TLM _I	0.0085	Initial TLM(D) Charge is set out in the relevant contract, illustrative
TCD	$(\text{£}100.00/\text{MWh} - \text{£}1.00/\text{MWh})$ $* \frac{0.0100 - 0.0085}{1 - 0.0100}$ $= \text{£}0.15/\text{MWh}$	This represents the TLM(D) Charges Difference the purposes of calculating the TLM(D) Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

¹⁵ See CfD: Definitions "Initial TLM(D) Charge"

See IC: Definitions "Initial TLM(D) Charge" (as per DECC Amendment to the IC)

¹⁶ See CfD: Definitions "The Actual TLM(D) Charge"; TLM(D) Charges Report; Condition 47.1(C)

See IC: Definitions "Actual TLM(D) Charge"; TLM(D) Charges Report; Condition 45.2(E) (also see DECC Amendment to the IC)

¹⁷ The Actual TLM(D) Charges may be sourced from the Elexon web portal (see link below) by searching for TLM (a user account is required):

<https://www.elexonportal.co.uk/news/latest?cachebust=k2guo30wbl>

As TLM data is recorded for each half hour settlement period on a daily basis, the Actual TLM(D) Charge for the year is calculated as 1 - Average of Delivering TLM(D) Charges).

Note - TLM data may vary based on day of downloaded due to the settlement run updates which replace the previously published information.

5.7 The TLM(D) Strike Price Adjustment is now calculated using the TLM(D) Charges Difference. This is calculated as per the below¹⁸:

- (i) the TLM(D) Charges Difference calculated in respect of that Indexation Anniversary; less
- (ii) any TLM(D) Charges Differences added to the then applicable Strike Price in respect of any previous Indexation Anniversary; plus
- (iii) any TLM(D) Charges Differences deducted from the then applicable Strike Price in respect of any previous Indexation Anniversary.

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
TLM(D) Charges Difference (current)	£0.15/MWh	This represents the TLM(D) Charges Difference the purposes of calculating the TLM(D) Adjustment
TLM(D) Charges Difference (previous)	£0.10/MWh	This represents the sum of TLM(D) Charges Differences previously added
TLM(D) Strike Price Adjustment	£0.15/MWh – £0.10/MWh = £0.05/MWh	This represents the TLM(D) Strike Price Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

¹⁸ See CfD: Condition 47.1 (F)
See IC: Condition 45.2 (H) (as per DECC Amendment to the IC)

Section 6: BSC Strike Price Adjustment

6.1 Note: only applicable to generators which receive a BSC Strike Price Adjustment

6.2 Each year the Balancing System Charge Strike Price Adjustment is calculated, which then applies from the relevant Indexation Anniversary.

The Balancing System Charge Strike Price Adjustment is based on the Balancing System Charge Difference, which in turn is calculated as per the formula below¹⁹:

$$BSCD = ABC - IBC$$

where:

BSCD is the Balancing System Charge Differences;

ABC is the Actual Balancing System Charge; and

IBC is the Indexed Initial Balancing System Charge;

Each of the components in the formula above is considered in further detail below.

6.3 The Indexed Initial Balancing System Charge is calculated as per the formula below. It is noted that for the purposes of CPI_t , the CPI for January in the Balancing System Charge Report Year is used, and for the purposes of CPI_{base} , the CPI for the penultimate month of the Initial Balancing System Charge Window is used²⁰.

$$IBC = \prod_t \times I$$

where:

IBC Indexed Initial Balancing System Charge;

\prod_t is the applicable Inflation Factor, but for this purpose references to:

- (a) Base Year CPI (CPI_{base}) in the definition of Inflation Factor shall be to the value of the CPI for the penultimate month of the Initial Balancing System Charge Window; and
- (b) CPI_t in the definition of Inflation Factor shall be to the CPI for January in the Balancing System Charge Report Year save where the CPI for January is not published by the first (1st) day of the Summer Season in such Balancing System Charge Report Year in which case CPI_t shall be the Reference CPI; and

I is the Initial Balancing System Charge;

¹⁹ See CfD: Condition 46.1; Condition 46.1 (E)
See IC: Condition 44.2; Condition 44.2 (G)

²⁰ See CfD: Condition 46.1 (D)
See IC: Condition 44.2 (F)

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
Step 1: Calculate the Inflation Factor		
Initial Balancing System Charge Window	1 Mar 2013 to 28 Feb 2014	Illustrative
Balancing System Charge Report Year	1 Jan 2015 to 28 Dec 2015	Illustrative
CPI_t	127.1	CPI for January of the relevant year, e.g. January 2015
CPI_{base}	126.1	CPI for the penultimate month of the CFD balancing system charge window, e.g. Jan 2014
Π_t	xxxxxxx	This represents the relevant Inflation Factor which is used in Step 2 below
Step 2: Calculate the Indexed Initial Balancing System Charge		
xxx	£1.00/MWh	Use the Initial Balancing System Charge as defined in the relevant contract
Π_t	1.00	Inflation Factor applicable, as calculated above
xxx	$£1.00/MWh * 1.00 = £1.00/MWh$	This represents the Indexed Initial Balancing System Charge for the purposes of calculating the BSC Strike Price Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

6.4 The Actual Balancing System Charge is calculated from relevant generator data provided by the GB System Operator (in the case of BSUoS Charges) or a BSC Company (in the case of RCRC Credits) for the period from 01 February in the calendar year immediately preceding the relevant Balancing System Charge Report Year to 31 January in such Balancing System Charge Report Year^{21 22}.

As per the CFD requirements, the relevant generator data must not include Embedded Generators²³. Generators for the purposes of the Balancing System Charge are deemed to be Balancing Mechanism Units (BM Units) with a positive metered volume. This assessment is performed every Settlement Period.

The Actual Balancing System Charge is as calculated as (Total BSUoS Charges - Total net RCRC Credits) / Total BSUoS Generator Metered Output.

²¹ See CfD: Condition 46.1 (C); Definitions "Actual Balancing System Charge"; Balancing System Charge Report
See IC: Condition 44.2 (E); Definitions "Actual Balancing System Charge"; Balancing System Charge Report

²² The key components of the Actual Balancing System Charge are: total BSUoS metered output (MWh), total net BSUoS Charges and, total net RCRC Credits and of the electricity generators in Great Britain.

²³ See CfD: Definitions "Embedded Generators"

See IC: Definitions "Actual Balancing System Charge"

EMRS has published the relevant settlement period data <https://www.emrsettlement.co.uk/publications/settlement-data/>

For further details on this data please see Appendix A

6.5 The Balancing System Charge Difference is calculated as per the formula presented in section 6.2 of this report and the various terms discussed above.

An illustrative example is presented in the table below:

Term	Illustrative assumption	Note
<i>ABC</i>	£2.00/MWh	Actual Balancing System Charge sourced from publicly available data, illustrative
<i>IBC</i>	£1.00/MWh	Indexed Initial Balancing System Charge, as calculated above
<i>BSCD</i>	£2.00/MWh – £1.00/MWh = £1.00/MWh	This represents the Balancing System Charge Difference the purposes of calculating the Balancing System Charge Strike Price Adjustment

Note: numbers and calculation are for illustrative purposes only. Only a simple, single example is presented and other scenarios may exist.

The Balancing System Charge Strike Price Adjustment is now calculated using the Balancing System Charge Difference. This is calculated as per the below²⁴:

$$BSCD = ABC - IBC$$

where:

BSCD is the Balancing System Charge Differences;

ABC is the Actual Balancing System Charge; and

IBC is the Indexed Initial Balancing System Charge;

Section 7: Appendix A

Generator Identification

- 7.1 The CFD requires that the Annual Balancing System Charge is calculated in respect of “Generators” only. To ensure this, the BSUoS, RCRC and Metered Volume must be evaluated at a BM Unit level for each Settlement Period; only the +ive volume BM Units should be included in the final figures.
- 7.2 Please refer to The CFD also requires that embedded “exemptible” (license-exempt) generators are excluded from the calculation of the Balancing System Charge. The license-exempt status for each BM Unit can be determined by combining the prefix of the BM Unit ID with its Exempt Export Flag; this is registered with the Central Registration Agency (CRA). The table below shows how BM Units are categorised and which categories are included in the Balancing System Charge calculation.

BM Unit ID Prefix	Category	Inclusion in Balancing System Charge?
T_	Transmission Connected	Included
E_	Distribution Connected	Included where Exempt Export Flag = False
I_	Interconnector	Excluded
2_	Supplier	Excluded
C_	Supplier	Excluded
M_	Miscellaneous	Included

For clarity, the calculation of the Balancing System Charge should be based only on BM Units which have the following attributes:

- o +ive metered volume
- o a BM Unit ID prefix of T_ or M_, or a BM Unit ID prefix of E_ with an Export Exempt Flag of F (false).

This assessment must be done on a Settlement Period basis.

BSUoS Charge

- 7.3 The Connection and Use of System Code (CUSC) defines how BSUoS is calculated and charged. CUSC Section 14.30 defines the allocation of the total BSUoS charge. Charges are calculated at a Trading Unit level, but an effective BM Unit breakdown of the BSUoS charge can be calculated using the formulas provided in CUSC Section 14.30.2.

Charges are allocated based on a different formula depending on whether the Trading Unit is net offtaking or net delivering. Therefore, to establish the BSUoS charge at a BM Unit level, the net status of the parent Trading Unit must be known. This can be deduced from the TLM or from the Trading Unit Metered Volume. Note that it is possible for a +ive volume BM Unit to be within a net offtaking Trading Unit. Under this situation the BM Unit acts to suppress the overall BSUoS charge for the Trading Unit; and effectively has a negative charge.

RCRC Charge

7.4 BSC Section T 4.10 defines the calculation of RCRC. The method is similar to that of BSUoS, with charges/payments allocated to BM Units depending on the net flow of the Trading Unit. An effective BM Unit breakdown of RCRC can be calculated using the formulas in BSC Section T 4.10.2. As such the same considerations with regards to Trading Unit net Metered Volume must be taken into account to determine the direction of the charge/payment.

Data Sources

7.5 The relevant settlement period data can be sourced from Elexon Report SAA-I014 (subflow 2), which is available from Elexon. Please contact the Elexon BSC Service Desk for details on accessing this data (<https://www.elexon.co.uk/contacts/>).

Total BSUoS Charges are calculated as the BSUoS generator metered output (MWh) for each settlement period multiplied by the corresponding BSUoS Price. The half hourly BSUoS Price for each settlement period may be sourced from the BSUoS SF dataset from the National Grid website via the following link: <http://www2.nationalgrid.com/bsuos>

Total net RCRC Credits are calculated as the sum of generator metered output (MWh) for each settlement period multiplied by the corresponding Residual Credit £/MWh rate for each settlement period. For each settlement period the Residual Credit £/MWh rate settlement run used should be consistent with that used for the total BSUoS generator metered output (MWh)

RCRC prices can be sourced from the Elexon web portal by searching for RCRC (a user account is required): <https://www.elexonportal.co.uk/news/latest?cachebust=k2guo30wbl>

Note - RCRC data may vary based on the day of downloaded due to settlement run updates which replace previously published information.

EMRS has published a copy of the relevant settlement period data <https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/d7bt>

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