

Section 2 – The Statement of the Balancing Services Use of System Charging Methodology

14.29 Principles

- 14.29.1 The Transmission Licence allows The Company to derive revenue in respect of the Balancing Services Activity through the Balancing Services Use of System (BSUoS) charges. This statement explains the methodology used in order to calculate the BSUoS charges.
- 14.29.2 The Balancing Services Activity is defined in the Transmission Licence as the activity undertaken by The Company as part of the Transmission Business including the operation of the transmission system and the procuring and using of Balancing Services for the purpose of balancing the transmission system.
- 14.29.3 The Company keeps the electricity system in balance (energy balancing) and maintains the quality and security of supply (system balancing). The Company is incentivised on the procurement and utilisation of services to maintain the energy and system balance and other costs associated with operating the system. Users pay for the cost of these services and any incentivised payment/receipts through the BSUoS charge.
- 14.29.4 All ~~CUSC Parties~~Users acting as Generators and Suppliers (for the avoidance of doubt excluding those Users with a valid Declarations, all BMUs and Trading Units associated with either Interconnectors and/or Virtual Lead Parties) are liable for Balancing Services Use of System charges based on their energy taken from or supplied to the National Grid system in each Final Demand in each half-hour Settlement Period.
- 14.29.5 BSUoS charges comprise the following costs:
- (i) The Total Costs of the Balancing Mechanism
 - (ii) Total Balancing Services Contract costs
 - (iii) Payments/Receipts from The Company's incentive schemes
 - (iv) Internal costs of operating the System
 - (v) Costs associated with contracting for and developing Balancing Services
 - (vi) Adjustments
 - (vii) Costs invoiced to The Company associated with Manifest Errors and Special Provisions.
 - (viii) BETTA implementation costs
 - (ix) Financing and administrative costs, as agreed by The Authority, associated with the management of the Covid Support Scheme in 14.30.1~~12~~

14.30 Calculation of the Daily Balancing Services Use of System charge

Calculation of the Daily Balancing Services Use of System charge

14.30.1 The BSUoS charge payable by customer c, on Settlement Day d, will be calculated in accordance with the following formula:

$$BSUoS_{TOT}_{cd} = \sum_{i \in c} \sum_{j \in d} BSUoS_{TOT}_{ij}$$

Where:

- i - refers to the individual BM Unit
- j - refers to an individual Settlement Period
- $\sum_{i \in c} \sum_{j \in d}$ - refers to the sum over all BM units 'i', for which customer 'c' is the Lead Party* summed over all Settlement Periods 'j' on a Settlement Day 'd'

Definition of the BSUoS charging base

14.30.2 BSUoS liability is based on a User's -Final Demand.

~~14.30.2~~ 14.30.3 The BSUoS tariff for each settlement period is calculated by the following formula:

$$BSUoS_{tariff_j} = \frac{BSUoS_{TOT_j}}{TQM_j + SGQM_j}$$

Where:

- $BSUoS_{TOT_j}$ - refers to the total BSUoS Charge that needs to be recovered for Settlement Period j
- TQM_j - refers to the total Transmission Connected BM Unit Metered Volume for Settlement Period j
- $SGQM_j$ - refers to the Gross Final Demand BM Unit Volume for Settlement Period j

~~14.30.3~~ 14.30.4 A Supplier BM Unit's ~~and Exempt Export BM Unit's~~ charge is calculated by the following formula:

$$BSUoS_{TOT_{ij}} = BSUoS_{tariff_j} \times SGQM_{ij}$$

~~14.30.4~~ 14.30.5 All other BSUoS liable customers with a Bilateral Agreement with The Company will have their charge calculated by the following formula:

* or CUSC party associated with the BMUnits (listed in Appendix C of the BEGA) who is exempt from also being a BSC Party

$$BSUoSOT_{ij} = BSUoS_{tariff_j} \times TQM_{ij}$$

Interconnector BM Units

~~14.30.5~~14.30.6 BM Unit and Trading Units associated with Interconnectors, including those associated with the Interconnector Error Administrator, are not liable for BSUoS charges. BM Units, including Secondary BM Units, which are associated with Virtual Lead Parties are not liable for BSUoS charges.

Storage Facilities

~~14.30.6~~ The BM Units associated with CVA Storage Facilities will not be charged BSUoS against imported volumes where the imports of that BM Unit are solely for the purposes of operating that CVA Storage Facility.

~~14.30.7~~ Where the BM Unit is a Supplier BM Unit and one or more SVA Storage Facilities are registered to that Supplier BM Unit, the Supplier shall be liable for BSUoS in accordance with 14.30.3, excluding any imports to such SVA Storage Facilities where those imports are solely for the purposes of operating that Storage Facility.

~~14.30.8~~ In all cases, where a facility ceases to be a CVA Storage Facility, the exemption in para 14.30.6 shall no longer apply. The User, shall inform The Company as soon as is reasonably practicable and in any event no more than 5 Working Days from the date on which the facility ceased to be a CVA Storage Facility.

Total BSUoS Charge (Internal + External) for each Settlement Period ($BSUoSOT_{jd}$)

~~14.30.9~~14.30.7 The Total BSUoS charges for each Settlement Period ($BSUoSOT_{jd}$) for a particular day are calculated by summing the external BSUoS charge ($BSUoS_{EXT_{jd}}$) and internal BSUoS charge ($BSUoS_{INT_{jd}}$) for each Settlement Period.

$$BSUoSOT_{jd} = BSUoS_{EXT_{jd}} + BSUoS_{INT_{jd}}$$

External BSUoS Charge for each Settlement Period ($BSUoS_{EXT_{jd}}$)

~~14.30.10~~14.30.8 The External BSUoS Charges for each Settlement Period ($BSUoS_{EXT_{jd}}$) are calculated by taking each Settlement Period System Operator BM Cash Flow ($CSOB_{ij}$) and Balancing Service Variable Contract Cost ($BSCCV_{ij}$) and allocating the daily elements on a MWh basis across each Settlement Period in a day.

$$\begin{aligned}
BSUoS_{EXT_{jd}} &= CSOB_{M_{jd}} + BSCCV_{jd} \\
&+ [(BSCCA_d + TotAdj_d - OM_d + BSC_d + SOTOC_d + LOCTRU_d + BSUoS_{CCOVD_d}) \\
&* (TQM_{ijd} + SGQM_{ijd}) / \\
&\sum_{j \in d} (TQM_{ij} + SGQM_{ij})]
\end{aligned}$$

Internal BSUoS Charge for each Settlement Period (BSUoSINT_{jd})

~~14.30.11~~ **14.30.9** The Internal BSUoS Charges (BSUoSINT_{jd}) for each Settlement Period j for a particular day are calculated by taking the incentivised and non-incentivised SO Internal Costs (as determined in line with Transmission Licence Special Condition 4.1) for each Settlement Day allocated on a MWh basis across each Settlement Period in a day.

$$\begin{aligned}
BSUoS_{INT_{jd}} &= [(ADJR_d + SOLAR_d)] \\
&* (TQM_{ijd} + SGQM_{ijd}) / \sum_{j \in d} (TQM_{ij} + SGQM_{ij})
\end{aligned}$$

Inclusion of Profiling Factors

~~14.30.12~~ **14.30.10** Profiling factors have been included to give an effective mechanism for calculating a representative level of the incentive payments to/from The Company according to the time of year. All PFT_k are assumed to be one for the duration of the current external incentive scheme

Covid-19 specific changes

~~14.30.13~~ **14.30.11** As a result of the Coronavirus-19 (Covid-19) pandemic, The Company will make specific and time-limited changes to the BSUoS methodology in this Section 2 to support those Users identified in 14.29.4. This will consist of deferring the BSUoS costs associated with Covid-19 ("Covid Costs") from the calculation in 14.30.79 to a later date as described in 14.30.124 and 14.30.135 (the "Covid Support Scheme").

~~14.30.14~~ **14.30.12** Covid Costs shall be calculated as;

If $BSUoS_{TOT_j} \leq COVIDCAP_{TOT_j}$, then $BSUoS_{COVID_j} = £0$
 Or $BSUoS_{TOT_j} > COVIDCAP_{TOT_j}$, then $BSUoS_{COVID_j} = BSUoS_{TOT_j} - COVIDCAP_{TOT_j}$

Where;

From 25th June 2020 until the Business Day after the Authority's decision on CMP350, COVIDCAP_{TOT_j} is calculated as;

$$£15/MWh * \left\{ \left| \sum^+ (QMBSUoS_{ij} * TLM_{ij}) \right| + \left| \sum^- (QMBSUoS_{ij} * TLM_{ij}) \right| \right\}$$

And

From the first Settlement Period of the Business Day after the Authority's decision on CMP350 to the Covid Support Scheme End Date, COVIDCAPTOT_j is calculated as;

$$£10/MWh * \left\{ \left| \sum^{+} (QMBSUoS_{ij} * TLM_{ij}) \right| + \left| \sum^{-} (QMBSUoS_{ij} * TLM_{ij}) \right| \right\}$$

~~14.30.15~~ 14.30.13 Between 2 working days from The Authority's decision on CMP345 and the Covid Support Scheme End Date, the formula in 14.30.~~79~~ shall be updated so that Covid Costs (BSUoSCOVId_j) for Settlement Period j in Settlement Day d are removed as follows;

$$BSUoSTOT_{jd} = BSUoSEXT_{jd} + BSUoSINT_{jd} - BSUoSCOVId_{jd}$$

The Covid Support Scheme End Date shall be the earlier of:

1. The 25th October 2020, or,
2. The day as advised by The Company as described in 14.30.1~~68~~

~~14.30.16~~ 14.30.14 During the Financial Year 2021/22, the formula in 14.30.~~79~~ shall be updated so that Covid Costs (BSUoSCOVId_j) for Settlement Period j in Settlement Day d are added as follows;

$$BSUoSTOT_{jd} = BSUoSEXT_{jd} + BSUoSINT_{jd} + BSUoSCOVId_{jd}$$

Where BSUoSCOVId_j, is the cumulative total Covid Cost of the Covid Support Scheme (including any administrative or financing cost borne by The Company, as agreed by The Authority) recovered equally from each Settlement Period in the Financial Year.

Outside of the date ranges listed in 14.30.1~~35~~ and 14.30.1~~46~~, the formula in 14.30.~~79~~ shall be unchanged and in effect.

~~14.30.17~~ 14.30.15 The Company shall provide weekly updates to notify industry of the total Covid Costs removed under paragraphs 14.30.1~~24~~ and 14.30.1~~35~~. When BSUoSCOVId_j reaches a value of £60m, The Company shall revise the frequency of these updates to each Business Day from the next Business Day after BSUoSCOVId_j reaches a value of £60m.

~~14.30.18~~ 14.30.16 When The Company, exercising its reasonable judgement, has reason to believe that the cumulative total for BSUoSCOVId_j since 25th June 2020 could exceed £100m (excluding of VAT), The Company shall notify Users of when the Covid Support Scheme will end. The Company shall give no less than 2 Business Days notice of the Covid Support Scheme ending. Such notice shall be accompanied by an opinion which states that it is the reasonable judgement of The Company that if the Covid Support Scheme continued beyond the notified end date then the cumulative total for BSUoSCOVId_j from 25th June 2020 would exceed £100m.

14.31 Settlement of BSUoS

Settlement and Reconciliation of BSUoS charges

14.31.1 There are two stages of the reconciliation of BSUoS charges described below:

- Initial Settlement (SF)
- Final Reconciliation (RF)

Initial Settlement of BSUoS

14.31.2 The Company will calculate initial settlement (SF) BSUoS charges in accordance with the methodology set out in section 14.30 above, using the latest available data, including data from the Initial Settlement Run and the Initial Volume Allocation Run.

Reconciliation of BSUoS Charges

14.31.3 Final Reconciliation will result in the calculation of a reconciled charge for each settlement day in the scheme year. The Company will calculate Final Reconciliation (RF) BSUoS charges (with the inclusion of interest as defined in the CUSC) in accordance with the methodology set out in section 14.30 above, using the latest available data, including data from the Final Reconciliation Settlement Run and the Final Reconciliation Volume Allocation Run.

Unavailability of Data

14.31.4 If any of the elements required to calculate the BSUoS charges in respect of any Settlement Day have not been notified to The Company in time for it to do the calculations then The Company will use data for the corresponding Settlement Day in the previous week. If no such values for the previous week are available to The Company then The Company will substitute such variables as it shall, at its reasonable discretion, think fit and calculate Balancing Services Use of System charges on the basis of these values. When the actual data becomes available a reconciliation run will be undertaken.

Disputes

14.31.5 If The Company or any customer identifies any error which would affect the total Balancing Services Use of System charge on a Settlement Day then The Company will recalculate the charges following resolution of the error. Revised invoices and/or credit notes will be issued for the change in charges, plus interest as set out in the CUSC. The charge recalculation and issuing of revised invoices and/or credit notes will not take place for any day where the total change in the Balancing Services charge is less than £2000.

Relationship between the Statement of the Use of System Charging Methodology and the Transmission Licence

- 14.31.6 BSUoS charges are made on a daily basis and as such of this Statement sets out the details of the calculation of such charges on a daily basis. Customers may, when verifying charges for Balancing Services Use of System refer to the Transmission Licence which sets out the maximum allowed revenue that The Company may recover in respect of the Balancing Services Activity.
- 14.31.7 The Company has, where possible and appropriate, attempted to ensure that acronyms allocated to variables within the Balancing Services charging software, and associated reporting, match with the acronyms given to those variables used within this statement.

14.31.8 Balancing Services Use of System Acronym Definitions

For the avoidance of doubt “as defined in the BSC” relates to the Balancing and Settlement Code as published from time to time.

EXPRESSION	ACRONYM	Unit	Definition
Daily Adjusted Revenue	ADJR _d	£	Means adjusted revenue published by the Authority pursuant to Special Condition 5.2 (Annual Iteration Process for the ESO Price Control Financial Model) prior to the end of Regulatory Year t; as calculated for Settlement Day, d,
BETTA Preparation Costs	BI	£	As defined in the Transmission Licence
Balancing Mechanism Unit	BM Unit or BMU		As defined in the BSC
Black Start Costs	BSC	£	As defined in the Transmission Licence ¹
Balancing service contract costs – non-Settlement Period specific	BSCCA _d	£	Non Settlement Period specific Balancing Contract Costs for settlement day d less any costs incurred within these values relating to Supplementary Balancing Reserve and Demand Side Balancing Reserve
Balancing Service Contract Cost	BSCC _j	£	Balancing Service Contract Cost from purchasing Ancillary services applicable to a Settlement Period j less any costs incurred within these values relating to Supplementary Balancing Reserve and Demand Side Balancing Reserve
Balancing service contract costs – Settlement Period specific	BSCCV _j _d	£	Settlement Period j specific Balancing Contract Costs for settlement day d
Cost of the Covid Support Scheme incurred in 2020/21	BSUoSCOV _d	£	As defined in the Transmission Licence calculated for Settlement Day, d
External Balancing Services Use of System charge	BSUoSEXT _j _d	£	External System Operator (SO) Balancing Services Use of System charge applicable to Settlement Period j for settlement day d
Internal Balancing Services Use of System charge	BSUoSINT _j _d	£	Internal System Operator (SO) Balancing Services Use of System charge applicable to Settlement Period j for settlement day d
Balancing Services Use of System tariff	BSUoStariff _j	£/MWh	Tariff for the Balancing Services Use of System charge applicable to Settlement Period j
Total Balancing Services Use of System charge	BSUoSTOT _c _d	£	The sum determined for each customer, c, in accordance with this Statement and payable by that customer in respect of

¹ Current electricity transmission network price control starting 2021 (RIIO-T2) licence drafting being updated

			each Settlement Day d, in accordance with the terms of the Supplemental Agreement
Total Balancing Services Use of System charge	BSUoSOTj	£	Total Balancing Services Use of System Charge applicable for Settlement Period j
System Operator BM Cash Flow	CSOBMj	£	As defined in the Balancing and Settlement Code in force immediately prior to 1 April 2001 less any costs incurred within these values relating to Supplementary Balancing Reserve and Demand Side Balancing Reserve
Daily balancing services adjustment	TotAdj _d	£	Is the contribution on Settlement Day, d, to the value of TotAdj _t where TotAdj _t is determined pursuant to part B of Special Condition 4.2 of the Transmission Licence
Forecast incentivised Balancing Cost	FBCd	£	Forecast incentivised Balancing Cost for duration of the Incentive Scheme as at settlement day d
Allowed Income Adjustment relating to the SO-TO Code	IAT	£	As defined in the Transmission Licence
Legacy adjustment with respect to actual and assumed RPI values	LOCTRUd	£	As defined in the Transmission Licence, calculated for Settlement Day, d.
Cost associated with the Provision of Balancing Services to others	OMd	£	Is the contribution on Settlement Day, d, to the value of OM _t where OM _t is determined pursuant to part C of special Condition 4.2 of the Transmission Licence
Outage change allowance amount	ON	£	As defined in the Transmission Licence
BM Unit Metered Volume	QMij	MWh	As defined in the BSC
Gross Final Demand BM Unit Volume	SGQM	MWh	The Import data as at the Transmission System Boundary by Settlement Period for Supplier BM Units <u>in respect to gross Final Demand volume (exclusive of all export volumes and import volumes from BM Units or Single Sites with a valid Declaration) and Exempt Export BM Units, minus imports for registered SVA storage facilities where those imports are solely for the purposes of operating that Storage Facility</u> , multiplied by the applicable TLM
SO-TO funding allowance	SOTOC	£	As defined in the Transmission Licence means the SO-TO cost allowance term, calculated in accordance with Special Condition 4.4 (SO-TO Mechanism)
Supplier BM Unit			As defined in the BSC
System Operator Legacy Adjustments	SOLARd	£	As defined in the Transmission Licence calculated for Settlement Day, d

Trading Unit Delivery Mode Multiplier			Trading Units as defined in the Balancing and Settlement Code can be either in 'delivering' or 'offtaking' mode. If the Trading Unit Delivery Mode of a Trading Unit is 'Delivering' the Trading Unit Delivery Mode Multiplier is +1 for all BM Units within that Trading Unit. If the Trading Unit Delivery Mode of a Trading Unit is 'offtaking' the Trading Unit Delivery Mode Multiplier is -1 for all BM Units within that Trading Unit.
Transmission Loss Multiplier	TLMij		As defined in the BSC
Transmission Connected Site Final Demand BM Unit Metered Volume	TQM	MWh	The BM Unit Metered Volume for BSUs liable Users <u>Final Demand</u> with a Bilateral Agreement with The Company, excluding Exempt Export BM Units, minus imports to registered CVA storage facilities where those imports are solely for the purposes of operating that Storage Facility exclusive of export volumes, which is multiplied by the TLM and Trading Unit Delivery Mode Multiplier
Transmission System Boundary			As defined in the Balancing and Settlement Code
Total System Energy Imbalance Volume	TQEIj	MWh	As defined in the Balancing and Settlement Code in force immediately prior to 1 April 2001
Final Reconciliation Settlement Run			As defined in the BSC
Final Reconciliation Volume Allocation Run			As defined in the BSC
Initial Settlement Run			As defined in the BSC
Initial Volume Allocation Run			As defined in the BSC
Lead Party			As defined in the BSC

