

Your questions answered
Charging and Settlements Forums

16 and 17 October 2018

Your questions, answered (day 1)

Transmission Network Use of System Charges

1 Do interconnectors pay TNUoS?

No, under the current methodology interconnectors do not pay BSUoS or TNUoS charges.

2 If TNUoS is TO revenue, why does the SO collect it?

Historically National Grid in its role as GB system operator ran the TNUoS process on behalf of all the Transmission Owners (TOs) in Great Britain (National Grid, Scottish Hydro Electricity Transmission, Scottish Power Transmission and the Offshore Transmission Owners).

Under the legal separation programme, we as National Grid Electricity System Operator will have the licence obligation to administer the TNUoS process, and will therefore bill customers to collect revenues on behalf of all TOs.

3 Can a Triad occur in March?

No, although system peaks may occur outside the 'Triad Window' (1 November to 31 March), they are not considered in the calculation of Triad charges.

4 If distribution connected assets pay for the transmission network, why don't transmission connected assets pay for the distribution network?

The current arrangements have been defined by the industry over a period of time. Given the changes in the generation and demand mix and locations, it is appropriate to consider the charging arrangements.

The distinction between transmission and distribution is a commercial one, with differing charging arrangements at each level. We advocate future charging arrangements that ensure all assets are charged appropriately for their impact on the network – wherever they are located.

5 Do I need a demand portfolio in order to receive embedded export credits? E.g. Can I just have Embedded generation and receive credit and no demand in the same GSP?

Yes, but the methodology would not allow us to pay you until our Initial Demand Reconciliation (annually in June).

6 Why is there a need for 10 clear days on triad?

The ten clear days is designed to ensure that all triads do not appear in one 'cold weather event'. The three periods separated by 10 days is designed to give a signal to reduce demand over all the winter peaks rather than one specific event.

7 Can the number of demand zones change?

The number of demand zones used to charge TNUoS is linked to the DNO areas / GSP Groups. A modification to use different zones could be raised and would then be considered against the charging objectives.

Industry data flows would need to be significantly adjusted if demand were charged using a different method, as data is aggregated in to GSP Group BMU units.

8 Can you explain how and why the residual tariff arises, what proportion it is, how much it is and how it will change?

Residual tariffs appear to ensure the correct total revenue recovery, after the application of the cost reflective methodology.

This appears in two ways in the charging methodology. The generation residual ensures that the total amount that generators pay meets the total allowed by the application of the €2.50/MWh cap on average generation charges. At the moment, the cost reflective

elements are more than the total allowed to be recovered - so the generator residual is negative.

The demand residual is used to ensure the correct total revenue recovery.

In our most recent [five-year view of TNUoS](#) we provided a view of how the residuals will develop in the next five years. See below:

Table 45 – The split of revenue recovered through the demand residual from the HH and NHH charging bases

	19/20	20/21	21/22	22/23	23/24
Total Generation Residual	£m - 259.82	- 320.61	- 412.12	- 608.53	- 886.60
Total Demand Residual	£m 2,653.38	2,712.59	2,932.63	3,166.17	3,348.21
Demand Residual from HH Tariffs	% 32.2%	34.8%	34.8%	34.8%	34.7%
Demand Residual from NHH Tariffs	% 67.8%	65.2%	65.2%	65.2%	65.3%

Ofgem’s Significant Code Review is also looking at how the residual should be charged, and further information can be found at www.chargingfutures.com.

9 I thought there was a reconciliation of demand charges - is this correct?

There are two reconciliations of demand charges 1) the initial reconciliation is in June and uses the latest available settlement metering and 2) the final reconciliation is in autumn of the following year and this uses RF (or Final) metering data.

10 Why were you late in publishing the 5-year forecast recently released?

In September, we were two weeks late publishing our five-year view compared to the date we released in January 2018. For this, we apologise. We did update our publication date via our website and our newsletter.

The reason for the delay was to allow us extra time to complete the analysis and undertake the sensitivity work that had been requested.

11 Can the AAHEDC result in a quarterly credit to a supplier if its HH export exceeds its HH demand, in a given GSP zone?

Yes, although this was not the intention of the scheme.

12 How will the increasing number of interconnectors impact TNUoS?

The effect of increasing the volume of interconnectors is shown in the latest five-year view in line with the FES scenarios.

Broadly, more interconnection reduces the energy provided by other transmission connected parties. Due to the €2.50/MWh cap, this reduces the total amount of revenue to be recovered from generation and increases the total amount of revenue to be recovered from demand. This decreases the generation residual and increases the demand residual.

The effect of more generation/interconnectors in the South-East of England will tend to flatten the locational signal, and demand is met by more local sources of generation. This would increase generation charges in Southern England, and decrease charges in Scotland and Northern England.

13 Is AAHEDC reconciled each year?

No, the methodology does not include a reconciliation as you are billed on outturn data.

14 Is there a minimum capacity for a site to be able to register for embedded export tariffs?

No there is no minimum capacity, but it must be HH metered.

15 As a techno-agnostic company, how do you do an estimate of the cost of transporting the added MW? (Having in mind renewables and peak shifting).

We use two scenarios to look at the incremental flow on the network. These scenarios are based on the planning standards defined in the Security and Quality of Supply Standard.

The first scenario is *peak*. This has zero renewable generation and no interconnector flow with demand being met by conventional generation.

The second scenario is year-round. This has demand met by a fixed percentage of renewables, full interconnector import, and then conventional generation.

The tariffs faced by individual generators are a combination of these two scenarios depending on their technology type.

16 The model workshop is sold out for December - when is the next one?

Sorry. We are arranging the suite of training for 2019 at the moment, we will publish dates on our website as soon as we can.

17 Are there plans to discard the triad principle and move to an average figure on a broader basis? (E.g. every working day 7-9pm)

Ofgem as part of their Significant Code Review are looking at whether Triads are the right mechanism to recover the demand residual. Their options do not include retaining Triad for this residual signal (see the slide on future of charging from the seminar).

18 If triads are more and more difficult to predict, could they disappear? (Removing the HH demand tariff).

Triads are a feature of the charging methodology used to recover HH demand charges. We know that Ofgem are already looking at the how residual charges are levied, and have indicated four options none of which include Triad. This means that the majority of the revenue currently recovered via Triad is likely to switch to a different mechanism in future.

Balancing Use of System Charges

19 CMP266 - Measurement classes F&G

Not sure on the question but if you require more information on CMP266 then it can be found at the following link: [click here](#).

20 If the availability of the HVDC Western Link is affecting BSUoS costs and ultimately prices - surely, they should REMIT report and Ofgem should be alerted. I'm sure this would encourage the developer to talk.

As an asset on the GB Transmission system, the obligations for reporting under REMIT are different to generators. Any effect on the BSUoS price is felt equally by all market parties within the settlement period. In our forecasts of BSUoS we factor in as much information about the availability of the link as we have.

21 Where can I find a breakdown of what is spent on each component of ancillary services?

We have broken down the high-level Balancing Services into component ancillary service pots within the Monthly Balancing Services Summary. This report is published on our website <https://www.nationalgrideso.com/balancing-data/system-balancing-reports>

22 Direct debit payments were taken a day early recently. Why isn't this included in the Billing Performance table for 2018?

The BSUoS process performance KPI hasn't previously included the accuracy of direct debit collections for BSUoS charges. We do however think this is a great idea so will include this measure within the KPI going forward.

23 How do I get access to the BPA & BCR reports?

The BPA and BCR reports are available from the National Grid SFTP server. There are instructions on how to connect to this service in the “Useful Information and Documents” section of the following page. <https://www.nationalgrideso.com/bsuos> To access this service, you will need an account login and password which can be obtained by emailing BSUoS.Queries@nationalgrid.com and requesting access to your BPA and BCR reports. Please include your BSUoS customer number and company name when making this request. This information can be found at the top of your BSUoS invoice.

24 Where does the TLM (Transmission Loss Multiplier), trading unit information as part of the BSUoS charge calculation come from?

This information comes from Elexon as part of the SAA-I014 sub flow 2 settlement data report. This report contains everything that happened in the Settlement systems on a particular day, broken down into half-hour Settlement Periods. This includes System Buy/Sell Prices, information on trading activity and charges for each Balancing Mechanism Unit (Party), Metered Volumes and Settlement cash flow information. It also has the all the information needed to re-calculate the System Buy and Sell Prices. Further information on Transmission Losses can be found in the following document: [Transmission Losses](#).

25 Do you predict changes to the AS payments backing data (spreadsheet files) under the project review?

Yes, there will be. This is a big project for us, we are replacing a system that is 20 years old. We anticipate that this project will deliver significant benefits to ourselves and our stakeholders. We will be engaging with our stakeholders as this project progresses to help us shape the project deliverables, one of which will be enhanced backing data reports. Look out for opportunities to engage with us as this project moves forwards.

26 Is there a source of Trading Unit Delivery Mode Information for a longer timeframe? – the BMR Portal only covers 1 day.

As already stated in the question, this data can be found at the [BM Reports Portal](#) but this currently limits you to searching for one day of data at a time. We aren't aware of any other sources where this data is available in different formats but prior to the introduction of modification P321, Elexon did publish some interim reports of the trading unit delivery mode that had this data compiled into monthly files. [Click here](#) for these files.

27 Any information on the removal of BSUoS charges from energy taken from the transmission system by Storage facilities?

CUSC modification CMP 281 has been raised to address this concern and more information about this proposed modification can be found at the following link: <https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/removal-bsuos-charges-energy-taken-national>

Question and Answer session

28 When National Grid receive (or incur) the incentive calculation, does that get factored into the current year's BSUoS charge or does it get recovered in the next year?

We are currently recovering £15m for the ESO incentive for the 2018/19 BSUoS scheme year. We started to recover this amount from 1 May 2018 and we published a note on our website on the 29 March 2018 which explains this in more detail. [Click here](#) to view this circular.

29 Can you give a simple explanation of the BSUoS residual?

There is no BSUoS residual in the same way as there is for TNUoS charging. However, as part of the review of industry network charges there is scope to consider whether any

elements of BSUoS charges should be considered a “residual” and recovered in a different manner to the method currently used.

Your questions, answered (day 2)

Transmission Network Use of System Charges

- 1 Does embedded generation <100MW with a BEGA pay TNUoS?**

No.
- 2 Is there any plan to extend the Triad window?**

See answers to Question 3, 18 and 19 from day 1.
- 3 There was a peak outside of Triad season due to 'the Beast from the East'. Could the triad definition be expanded to include out-of-winter periods?**

See answers to Question 3, 18 and 19 from day 1.
- 4 If triads are being phased out there will be more cost for generators and less for demand. What do you think the overall effect of this will be on the market?**

Removing triads would not necessarily put more costs onto generators. The current €2.50/MWh cap on generation charges precludes charging generation more. A new mechanism would need to be found to recover the revenue currently recovered via Triad.
- 5 Is 31st January the TNUoS tariff setting date set out in the CUSC? Can tariffs be set on a different date?**

It is defined in the CUSC and is in combination with our obligations in our licence. A modification to the CUSC could be proposed to change this date.
- 6 How is the embedded export tariff levied? Is embedded generation paid for their full output during the triad or is it net of demand within the GSP?**

Embedded export is calculated on the basis of gross export demand. For example, a net demand of 10kW made up on 15kW of gross demand and 5kW of gross export is treated separately; 15kW charged at the gross demand tariff and 5kW of gross export credited at the embedded export tariff.
- 7 Is there a cost-related reason why conventional generators pay a peak demand tariff (i.e. more expensive for the TO), or is it just a subsidy for renewables?**

See answer to Question 16 earlier. Also, worth noting that peak demand tariff (and/or year-round tariff) can be positive or negative, depending on the generation zone, therefore conventional generators in the south may get TNUoS payment.
- 8 Is there an annual reconciliation on over/under paid wider tariffs? If so, when?**

Generator reconciliation and demand reconciliation ensure that parties are charged the correct volume. However, TNUoS charges are set before the year. Any under/over recovery from the tariffs due to changes in chargeable volumes is dealt with by the K mechanism in the licence whereby the additional or surplus money is added or removed from the total revenue to be recovered in two years' time.

Balancing Use of System Charges

- 9 Can small generators have monthly billing and payments, rather than daily? The payments are small but the overhead cost of doing the paperwork is large.**

Due to CUSC and current system limitations this is not currently possible. We do appreciate the amount of overhead involved in paying daily invoices and that some customers find this difficult to cope with. We will bear this feedback in mind for forthcoming

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More questions? Contact TNUoS.queries@nationalgrid.com or BSUoS.queries@nationalgrid.com

reviews of BSUoS and would encourage customers to feed this into the same reviews when the opportunities arise. To assist customers in paying BSUoS invoices we offer payment by direct debit or by a cash account whereby customers can make a deposit with us which is then drawn down upon to pay BSUoS invoices. Please email the team if you would like further information on payment methods/terms.

BSUoS.Queries@nationalgrid.com

10 Daily reports - the narrative is useful. Please just speed up the publication.

Our internal target is to publish 80% of reports within two business days. Our current tools and processes require a certain amount of manual intervention, particularly with regard to system flagged actions. On some days, there are in excess of 3,500 Balancing Mechanism (BM) actions and trades to process. We have a plan in place to increase our % of reports produced within two business days by February 2019.

11 When will you begin publishing half-hourly BSUoS forecasts?

You should expect to see a half-hourly BSUoS price forecast by the end of October. We are looking into publishing further information and data (cost categories and modelling methodologies) in due course.

12 Is the historical cost data published in the MBSS saved somewhere where it could be easily accessible (.xls) in a consistent format?

The Monthly Balancing Services Summary report is available on our website going back to 2006. However, we have only published an accompanying excel file since 2016. Due to the significant review of the report in April 2018, only the high-level cost categories can be mapped to the old reports.

13 On the reason for not making a target for BSUoS forecasting accuracy, how is this any different to demand forecasting? Surely this also impacts parties' actions?

We will be monitoring the BSUoS forecast error and making adjustments as we learn more about day ahead forecasting. As this is a new area for the ESO, we would not want to be incentivised on our forecast accuracy at this early stage.

Demand forecasting is directly incentivised under the ESO Incentive arrangements. The incentive is on certain points of the day, not every half-hour. In addition, we have a lot of historical experience in demand forecasting compared to very little in short-term BSUoS forecasting.

14 On the day ahead forecast - can you tell me about what you are doing and why, and how you'll review the new signal?

Providers and suppliers have told us through the customer journey that they would like a day ahead BSUoS forecast. We have included this in our forward plan which forms part of the ESO Incentive package. We will review the forecast error and make adjustments as we learn about day ahead forecasting and any industry behaviour relating to the price signal.

15 Will there ever be a live BSUoS feed? What are the current obstacles stopping this feed being in place?

It's an interesting concept and something that we can see would have potential benefits to BSUoS customers. Current major obstacles that would prevent this are the availability of the settlement data from Elexon and our internal systems used for calculating the BSUoS charge, both are geared towards daily calculations. We are however taking steps to publish as much real-time data or as close to real time as possible and as part of our overall goal of greater transparency we will continue to do this.

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16 Would the share of ancillary services costs grow in the future from the £600m with developments under the SNAPS programme?

Snaps is designed to deliver balancing service markets that meet our system needs and in which all technologies can compete on a level playing field. One of the objectives is to ensure routes to the market for all participants. It's hoped that more participation will lead to greater liquidity in the market and ultimately balance the system in an efficient and economical way.

17 How does the current ancillary service settlement system operate? What are the issues and how do you plan to improve it?

The current ancillary service settlement system is 20 years old, requires a lot of manual interactions and spreadsheets to enable us to settle ancillary services each month. The current system will be completely replaced with a new system that will require far less manual interactions and no additional spreadsheets. Enhanced invoicing and backing data information are key stakeholder deliverables for this project.

18 Does money made from Arbitrage tagging reduce BSUoS costs?

Yes, if a higher priced bid is taken and balanced with a cheaper offer price, that would reduce BSUoS costs in that settlement period. With regard to arbitrage tagging – that is for the purpose of the cash-out calculation, carried out by Elexon.

19 Do distribution connected embedded generators pay BSUoS?

The short answer is yes, whether directly or indirectly, embedded generators pay BSUoS charges. Unfortunately, the complexities of whether they have a direct relationship with National Grid or whether they are paid through the DNO is more involved. To help customers understand this we would direct them to a document from Elexon which explains the different scenarios that effect Embedded Generation and Embedded benefits. Click the following link for [Embedded Generation and Embedded Benefits from Elexon](#). In many cases, embedded generation will receive the BSUoS charge as a benefit due to the effects of the trading unit delivery mode. It is worth noting though that in cases where the trading unit delivery mode changes, embedded generation can be liable to pay BSUoS charges rather than receiving it as a benefit.

20 It seems as if the 'ancillary services' portion of the BSUoS bill is the least transparent, yet it accounts for 50%. Is there scope for more transparency?

We hope that the new Monthly Balancing Services Summary report provides more transparency on Ancillary Services. Please let us know if you feel it could be more transparent.

21 Why aren't ESO internal costs treated like TO costs, through a residual?

Under the current arrangements as defined by the CUSC there isn't scope for doing this.

Question and Answer session

22 How do I make sure I receive the security statement shown on the screen earlier?

If you believe you should be receiving the security statement but are not, then please email us at TNUoS.Queries@nationalgrid.com and we will ensure you receive the statement.

23 Why is the next ESO forward plan looking at two-year horizon instead of one?

2019/20 and 2020/21 are the last two years of the current RIIO-T1 price control. Therefore, we are going to do a joint plan for these two years, with a revision mid-way

through. The incentive arrangements, and hence the forward plan, for after 2020/21 are part of the agreement to be reached for the RII02 price control period starting April 2021.

24 Re: level playing field, what is ESO doing to listen to smaller parties that don't have resources to lobby in industry events?

The ESO has run a series of workshops and a webinar in October updating the industry on some of its thinking in this area and seeking input from stakeholders. We intend to further develop this work and bring forward further proposals in the near future. When we run these events, we do not prioritise large customers over small but instead aim to make them accessible to everyone.

25 Is there a PDF copy of the slideshow to pass on to colleagues?

Yes, the slides from [day 1](#) and [day 2](#) are on our website.

26 How does the ESO/Ofgem intend to facilitate reform of BSUoS? What ways can parties influence change?

The ESO has run a series of workshops and a webinar in October updating the industry on some of its thinking in this area and seeking input from stakeholders. We intend to further develop this work and bring forward further proposals in the near future. Any work we do on BSUoS will need to take into account the conclusions from Ofgem's Significant Code Review and therefore it is unlikely we will bring forward any detailed modification proposals until the end of 2018/early 2019.