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To: all Charter operators, and ORR

20 January 2014

Dear colleague,

Methodology for calculating traction electricity tariffs for charter operators in CP5

1. Purpose and background

On 10 October 2013[1], we wrote to all train operators and ORR setting out our revised proposal for charging charter operators for their use of EC4T (electric current for traction) in CP5. ORR confirmed this approach in its final determination[2].

In that letter we proposed that we would "*charge charter operators a pence per kWh tariff that is consistent with the market-based tariff paid by Network Rail for our own use of traction and non-traction electricity. This tariff would be a blended average of all energy and delivery related tariffs".* We then went on to say that *"To facilitate this transparently, we will set out how we propose to do this by December 2013".*

This letter sets out the methodology we propose to use to calculate the pence per kWh tariff that would apply to charter operators' EC4T bills from the start of CP5. The 'energy' aspect of this tariff would also apply to other 'small' operators which have not joined an EC4T buying group (explained below).

There has been a minor delay in the publication of this letter due to ORR not being able to provide input prior to January.

2. Background

We categorise EC4T tariffs in to two key components - the 'energy' component and the 'delivery' component[3]. These are explained below:

- 'Delivery' tariffs recover the costs incurred by Network Rail, in respect of which, the rate charged to Network Rail varies by ESTA. These include costs associated with electricity supply industry transmission and distribution; and

[1] Available here: http://www.networkrail.co.uk/publications/delivery-plans/control-period-5/periodic-review-2013/pr13-closed-consultations/revised-proposal-for-EC4T.pdf

[2] Paragraph 16.558, available at: http://www.rail-reg.gov.uk/pr13/PDF/pr13-final-determination.pdf

[3] A breakdown of the energy and delivery tariffs are set out in Annex B

- ‘Energy’ tariffs recover all EC4T costs that are not recovered via delivery tariffs.

Under the terms of Network Rail’s contract with its supplier, operators which use at least 5% of the total EC4T consumption (or from October 2014, at least 8760 MWh[4] each per annum) are able to lock the ‘commodity’ component[5] of their ‘energy’ tariffs for their forecast amount of consumption, if they wish[6]. Operators which use less than this amount may choose to join a ‘buying group’, whereby their combined consumption meets the minimum threshold. A buying group may then decide to lock the ‘commodity’ component of their ‘energy’ tariff in the same way as larger operators.

The tariff associated with the remaining forecast consumption is locked by Network Rail (in the same way as an operator or buying group may lock their tariff). That is to say that Network Rail locks the tariff on behalf of Network Rail (for its own consumption), and any consumption used by other ‘non-buying group’ users of EC4T.

In CP4, neither charter nor other small operators (e.g. freight operators) are charged based on actual electricity prices. Therefore, this cost is currently attributed to Network Rail only, and is charged at the commodity ‘energy’ tariff which is locked by Network Rail with its energy supplier.

Currently, ‘delivery’ tariffs are levied to franchised passenger operators, regardless of size, automatically through the Track Access Billing System (TABS). These tariffs vary by ESTA[7].

3. Proposed methodology

In our October letter, we proposed (which ORR later confirmed) that we will charge charter operators the same commodity ‘energy’ tariff which applies to Network Rail’s consumption (as described above). We also said that we will inform those operators of the relevant tariff prior to the start of each financial year.

We also propose that this ‘energy’ tariff is applied to other small ‘non-buying group’ operators. Those small operators will, however, pay ‘delivery’ tariffs disaggregated by ESTA.

For charter operators we will calculate a national average ‘delivery’ tariff which would be combined with the ‘energy’ tariff (plus other non-commodity standard ‘energy’ tariffs) to be used for charter billing. This is described, in more detail, in the remainder of this section. A worked example is set out in Annex A to this letter.

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[4] The minimum demand that can be locked in the contract is 1MW – in order to convert this to energy per annum it is necessary to multiply by hours in a year (8760 hours).

[5] In addition to this, various other non-commodity ‘energy’ tariffs apply. These are mostly set by government and are set at a standard pence per kWh rate for all users.

[6] If actual consumption is more/less than forecast, the agreed tariff would still apply. Large tolerances are built in to the power contract with Network Rail’s supplier.

[7] Electricity Supply Tariff Area

Recognising the materiality of their EC4T usage, and the associated administrative complexity of doing so, charter operators will be excluded from the year-end cost wash-up and the volume wash-up.

'Energy' tariff

The 'energy' tariff is split into many components. The commodity cost incurred by Network Rail forms a large part of this 'energy' tariff (close to 70%). Each year, we lock a pence per kWh tariff with our electricity supplier for any residual (commodity) consumption which has not been 'locked' by the larger franchised operators. This tariff is applied to Network Rail's own consumption, charter services' consumption and other small 'non-buying group' operators.

There are a number of other components which make up the remaining 30% of the 'energy' tariff, for example, balancing tariffs, Renewables Obligation and the Hydro levy. Some of these tariffs will be known at the start of the year, but the remaining will not be known until the year has concluded and are therefore estimated at the start of the year.

For simplicity, these tariffs will be added together, and applied to all charter and small 'non-buying group' operators' EC4T usage and Network Rail's own consumption.

'Delivery' tariff

'Delivery' costs vary across ESTAs. For simplicity, we will calculate an average 'delivery' tariff which will apply to charter operators only.

The average 'delivery' tariff, to be applied to charter operators' EC4T bills, will be calculated as follows:

$$\frac{Total\ Expected\ Delivery\ Cost\left(pence\right)}{Total\ Expected\ Consumption\left(kWh\right)}$$

- The total expected 'delivery' cost will be estimated based on historic levels of kWh demand and known changes (e.g. from forecasts provided by operators), multiplied by the published tariffs for the next financial year. All of the Distribution Network Operators, and National Grid, publish these tariffs which are specific to each supply point or area. The cost is the total across all ESTAs, and for all operators.

- The total expected consumption will be estimated using historic consumption data and forecasts which the operators will provide. Like the expected 'delivery' cost, this is the total across all ESTAs and for all operators.

This calculation therefore results in a **national average 'delivery' tariff** (pence per kWh).

Blended average tariff

The final ‘blended average’ tariff is simply an addition of the national average ‘delivery’ tariff, plus the commodity ‘energy’ tariff locked by Network Rail and other standard ‘energy’ tariffs.

As an illustrative example of the level of the tariff, applying the methodology above to 2013/14, the ‘blended average’ tariff for this year would be:

9.734	+	*1.208*	=	*10.942 pence per kWh*
‘energy’ tariff	+	*‘delivery’ tariff*		

We note that the above 2013/14 tariff will not be used to charge charter operators. Charter operators will be charged from 1 April 2014 - a separate tariff will be calculated and published prior to this date.

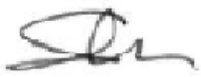
Next steps

We will publish, on our website, the pence per kWh tariff which will apply to charter services before each financial year begins. We propose to publish this no less than one calendar month before the financial year begins.

Alongside this, we will publish the ‘energy’ tariff and ‘delivery’ tariff (including the total expected delivery cost and total expected consumption) which have been used to calculate the charter tariff.

If you would like to discuss any of the issues raised in this letter, please do not hesitate to contact me using the details above.

Yours sincerely,



Ekta Sareen, Network Rail

Annex A – Worked Example

'Energy' tariff

We will lock the commodity aspect of the 'energy' tariff with our electricity supplier on behalf of Network Rail (for our own consumption) charter services and small 'non-buying group' operators each year. In this example, we assume that this is *7 pence per kWh.*

There are a number of other components of the 'energy' tariff which make up the remaining 30% of the tariff. Many of these remaining components will be known at the start of the year, and so actual tariffs can be charged to operators, but some will have to be estimated. In this example, we assume that, overall, these remaining components 'add up' to a tariff of *3 pence per kWh.*

This results in an overall 'energy' tariff for charter and small 'non-buying group' operators of *10 pence per kWh.*

'Delivery' tariff

Since the costs of 'delivery' vary by ESTA, we concluded that we would calculate an average 'delivery' tariff for charter operators.

Assume that there are 5 ESTAs, and that the expected 'delivery' costs and expected consumption are as shown in the table, below.

	ESTA 1	ESTA 2	ESTA 3	ESTA 4	ESTA 5
Expected cost (pence)	500	650	600	450	350
Expected consumption (kWh)	400	500	500	350	250

The total expected cost will therefore be *2,550 pence*, and the total expected consumption will be *2,000 kWh*.

The average 'delivery' tariff will therefore be:

2,550 / 2,000 = 1.275 pence per kWh.

Following this example, the average blended traction electricity tariff for charter operators would be:

10	+	*1.275*	=	*11.275 pence per kWh*
'energy' tariff	+	*'delivery' tariff*		

This would be the 'blended average' tariff charged to charter operators which use EC4T. This figure would be calculated and published prior to the start of the financial year.

Annex B – Breakdown of Electricity Costs[8]

	Tariff name	Unit of charge	Disaggregation	Process for setting the charge	Designed to recover	Approx % of total 13/14 electricity cost
'Energy'	Commodity	pence/kWh per time-band	Per operator	Can be fixed by operators either individually or through group procurement led by ATOC. If not fixed, a default rate applies.	Commodity cost of electricity	68.6%
	Market participation	pence/kWh	Nationwide	Fixed by supplier	Market trading costs	0.2%
	BSUoS	pence/kWh	Nationwide	Fixed by supplier	Real time grid balancing costs	2.0%
	Balancing charges	pence/kWh	Nationwide	Fixed by supplier	Demand prediction v actual demand cost	0.2%
	Transmission Losses (factor) 1.1%	Factor on energy	Nationwide	Set by National Grid	Losses in NGET system	0.8%
	Distribution losses (factor) 1.13%	Factor on energy	supply point specific but assumed nationwide	Rates set by DNOs	Losses in DNO systems	0.8%
	Renewables obligation	pence/kWh	Nationwide	Rate set by Government	Incentive for suppliers to source from renewables	10.2%
	AAHEDC (Hydro) levy	pence/kWh	Nationwide	Fixed by National Grid in July each year	Subsidy for people in rural areas	0.2%
	Feed-in tariff	pence/kWh	Nationwide	Reconciled to actual costs	Subsidy for installation of renewable generation	2.8%
'Delivery'[9]	Transmission (NGET)	£/kW of peak demand	Peak cost / peak demand by supply point	NGET calculates (at the end of the year) the consumption in the 3 half-hour peak periods. Passed through by supplier	Recovers the costs of transmission to national grid.	7.3%
	Transmission (DNO)	pence/kWh on peak kWh	Peak cost for some supply points	Set by DNOs for using their systems. Passed through by supplier	Recovers the costs of DNO super red period	0.2%
	Distribution (DNO)	Fixed and Capacity	Fixed tariff per supply point	Set by DNOs for using their systems. Passed through by supplier	Recovers the costs of DNO fixed / capacity related costs	5.1%
	Distribution (NGET Exit)	Fixed	Fixed amount per supply point	Fixed charges for directly connecting to NGET.	Recovers the cost of the connections	1.6%
	Distribution (EDF admin)	£/supply point	Fixed amount per supply point	Set by supplier	Recovers fixed costs for supplier	0.0%
	Distribution (Metering)	£/supply point	Fixed amount per supply point	Set in our metering contracts	Cost of providing metering & data services	0.1%

[8] These categories may change over time, these are correct for financial year 2012/13.

[9] All delivery tariffs are supply point specific. Each of the 125 supply points maps to one of the 20 ESTAs. Abbreviations: NGET – National Grid Electricity Transmission; DNO – Distribution Network Operator