

# PR13: CONSULTATION ON EC4T COST RECONCILIATION - NETWORK RAIL NOTE

## 1. Purpose

This note sets out a proposal to amend the EC4T (electric current for traction) cost reconciliation (referred to, in this note, as the “cost wash-up”), from the start of CP5. This note (together with ORR’s cover letter<sup>1</sup>) supplements ORR’s recent consultation on Implementing PR13<sup>2</sup>.

This note sets out some context, suggests some overriding principles for the cost wash-up and then proposes amendments to the legal drafting so that it is consistent with these principles.

[Annex A](#) explains the way in which Network Rail currently carries out the EC4T cost wash-up. [Annex B](#) sets out details of the various electricity tariffs. [Annex C](#) sets out worked examples for how the cost wash-up is carried out now, and how we propose for it to be carried out in CP5. [Annex D](#) sets out the proposed contractual drafting amendments.

## 2. Background and context

The EC4T cost wash-up, reconciles actual electricity costs incurred by Network Rail, against those charged to electric train operators throughout the year, for a certain volume of electricity (in terms of kWh).

### 2.1 ORR consultations

In its draft determination<sup>3</sup>, ORR stated that it supported Network Rail’s final proposal to: *“Change the cost wash-up formula to better reflect tariff structure including the EC4T delivery charge.”*

In its recent consultation on implementing PR13, ORR proposes to move the cost wash-up provisions to the newly named Traction Electricity Rules (currently known as the EC4T Metering Rules) document which it proposes to rename from the start of CP5.

In that same consultation, ORR also states: *“We will be working with Network Rail to publish shortly a note providing more details regarding components of the electricity charges, how they might feed into the cost reconciliation, and the amount of revenue associated with each of these charges in total and with respect to reconciliation.”* It also says *“We will consult in due course of specific contractual wording through a separate letter.”*

The consultation comprises both this note and ORR’s cover letter, which can be found at <http://www.rail-reg.gov.uk/pr13/consultations/implementing-ec4t-cost-reconciliation.php>.

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<sup>1</sup> Available at: <http://www.rail-reg.gov.uk/pr13/consultations/implementing-ec4t-cost-reconciliation.php>

<sup>2</sup> Available at: <http://www.rail-reg.gov.uk/pr13/consultations/pr13-implementation.php>

<sup>3</sup> Available at: <http://www.rail-reg.gov.uk/pr13/consultations/draft-determination.php>

### 3. Proposed principles

We consider that a set of guiding principles is useful in ensuring that the key objectives, of what we are trying to do, are met. We suggest the following principles in considering the cost wash-up.

- (a) The user pays: as far as is appropriate and feasible, the costs should be recovered from those that cause them to be incurred, consistent with the 'user pays' principle;
- (b) Transparency: the way in which the cost wash-up is carried out should be as transparent as possible;
- (c) Future proof: the industry should try to ensure that the provisions are 'future-proof' in that they do not become void or obsolete through changes made to electricity tariffs in the future; and
- (d) Flexibility: cost wash-up provisions should be flexible in that they should allow the industry to apply a process which is consistent with 'doing the right thing'.

### 4. Proposal for change

Consistent with the principles set out above, we are proposing (from the start of CP5) to distinguish between two broad categories of electricity tariffs, they are:

- (a) **'Energy'** tariffs which recover the commodity cost incurred by Network Rail in respect of traction electricity, electricity industry network losses and other 'energy' based costs for each train operator. Those that currently apply are set out in [Annex B](#). These have the shared characteristic that they are charged on a national basis at a pence per kWh rate; and
- (b) **'Delivery'** tariffs which recover the costs incurred by Network Rail in respect of the delivery of traction electricity from the power station to Network Rail through transmission and distribution networks for each supply point<sup>4</sup> and other non-'energy' related costs. Also set out in [Annex B](#).

We are proposing that, from the start of CP5, all discrepancies in 'energy' costs that are not operator-specific would be reconciled at a network-wide level e.g. a hydro levy change introduced mid-year. The discrepancy would be allocated to operators in proportion to their post volume wash-up (kWh) consumption.

We are proposing that, from the start of CP5, all 'delivery' costs would be reconciled by ESTA because they typically vary by location. This could take the form of a re-charge or rebate allocated to individual operators in proportion to their pre cost wash-up (£) 'delivery' charges for that ESTA.

#### 4.1 Full cost reconciliation

Currently, Network Rail is unable to carry out a full cost reconciliation (where the amount charged to operators, third parties and its own consumption is equal to the amount it pays to its electricity supplier). This is because freight services have paid for electricity according to a price index rather than the actual electricity charge and because of the absence of full

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<sup>4</sup> Each of the 125 supply points maps to one of the 20 ESTAs

metering, and charter services have not paid for their use of EC4T – this is because it was deemed inefficient to do so.

In CP5, ORR has determined that freight services will instead pay actual electricity tariffs, so that a fuller cost reconciliation (subject to estimation associated with modelled consumption and disaggregation of commodity prices to time-bands<sup>5</sup>) would be possible.

Charter services account for very small component of total EC4T consumption. We will be shortly be setting out our proposal for how charter services should pay for EC4T in CP5.

## 5. Contractual drafting

Currently the cost wash-up drafting is set out in Schedule 7 of the track access agreements (paragraph 5.3 of the current model passenger track access contract). ORR is proposing to move these provisions to the new Traction Electricity Rules. These provisions would be set out in paragraph 18.3 of the Traction Electricity Rules, from the start of CP5.

The current cost wash-up drafting does not distinguish between ‘delivery’ and ‘energy’ costs. Implementing the changes described in section 4 of this note, would necessitate changes to this drafting to reflect the different cost categories.

We propose to replace paragraph 18.3 of the proposed Traction Electricity Rules with new drafting. The key aim of the new drafting is to allow ‘delivery’ costs to be reconciled for each ESTA, with the remaining ‘energy’ costs being reconciled at a national level.

We also propose changes to paragraph 18.1 to highlight that the cost wash-up would always be carried after the volume reconciliation (referred to in this note as the ‘volume wash-up’) has taken place.

We consider that these provisions would allow for the cost wash-up to be carried out on a more cost reflective basis than is currently the case. We do not set out provisions for each of the individual tariffs as we consider that this would be unduly complex, and may be too restrictive, since tariff structure may change as a result of Ofgem and government policy changes during CP5.

The proposed legal drafting is set out in [Annex D](#).

### 5.1 *Drafting to reflect ORR’s proposal in relation to Network Rail’s share of the volume wash-up*

ORR has also, recently, consulted on changes to the volume wash-up. The proposed drafting for the volume wash-up includes a new term to allocate some of the volume wash-up to Network Rail. The way this has been drafted is such that an amount is left ‘unallocated’ after the wash-up as opposed to a separate invoice being raised against Network Rail. In principle, this seems reasonable, however it is important to ensure that the cost wash-up reflects ORR’s policy i.e. not all costs will be explicitly allocated after the volume wash-up.

To reflect this additional Network Rail share we have introduced a new term ‘NRLOSS’ to ensure this portion of kWh consumption also participates in the cost wash-up. Further to this, we have also included third parties’ usage in the cost wash-up.

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<sup>5</sup> Disaggregation of commodity rates to time-bands may be reviewed when the new EDF contract starts in October 2014.

## 5.2 *Drafting to reflect third party usage*

Not all train operators, which draw power from Network Rail's traction network, have the same charging provisions in their track access contracts as operators which have track access contracts that are regulated. We refer to these users as 'third parties'. An example of this type of user is London Underground.

While there are no formal arrangements for third parties to participate in the volume and cost wash-ups, we do not propose to simply exclude them from the wash-ups altogether. We do not consider it appropriate for any discrepancy relating to that usage to be paid for by other train operators.

We have used a term  $EN_{tmn}$  in the cost wash-up to reflect this issue, this ensures that they participate in the cost wash-up so that their costs are not simply passed through to other operators. This is set out in Annex D.

## **6. Next steps**

We are keen to hear your views on our proposals. Please send your responses in electronic format (or if not possible, in hard-copy format) to Henning Schmidt (details below) by 31 October 2013.

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## ANNEX A – COST WASH-UP IN CP4

### Passenger EC4T bills

Each period Network Rail charges each electric train operator an EC4T charge based on modelled kWh consumption (or actual kWh consumption, where the operator uses metered billing) multiplied by a set of tariffs. A breakdown of the electricity tariffs is set out in [Annex B](#).

The table splits the tariffs into two key categories, one is the ‘energy’ portion which includes the commodity costs to Network Rail of traction electricity, electricity industry network losses and other ‘energy’ based costs for each train operator. The other category is the ‘delivery’ portion, which reflects the costs to Network Rail of delivering traction electricity from the power station to Network Rail through transmission and distribution networks for each ESTA.

### ‘Energy’ tariffs

The largest component of the electricity tariff is the ‘energy commodity’ tariff. The commodity tariff is differentiated by time-band. For each calendar month there can be up to 7 time-bands:

*Table 1: Time-band*

1.	Weekday	Day
2.		Night
3.		Winter peak
4.	Weekend	Day
5.		Night
6.	Christmas	Day
7.		Night

These time-band based tariffs are applied according to when ‘energy’ is consumed. TABS, (Network Rail’s track access billing system), knows this because it uses inputs from TRUST on actual running data or the time-stamped metered data.

All other ‘energy’ tariffs are set the same for all operators.

### ‘Delivery’ tariffs

The ‘delivery’ tariff rates are set for each ESTA. Each operator pays the rate for the ESTA in which they operate. All operators pay the same rates.

EDF Energy and National Grid levy different ‘delivery’ charges per supply point - Network Rail bills this to train operators by summing the expected cost and dividing by the expected kWh consumption in each ESTA to generate a ‘delivery’ rate (p/kWh). This is, inevitably, not 100% accurate as it relies on estimates of usage.

### Freight EC4T bills

Currently, freight operators pay a fixed tariff multiplied by their modelled consumption to render an EC4T bill each period. This tariff is indexed each year based on the MLUI

(moderately large users' index)<sup>6</sup>. Therefore, freight operators do not currently take part in the cost wash-up.

For CP5, ORR has concluded that freight operators will pay electricity tariffs consistent with those set out in [Annex B](#), and will participate in the cost wash-up.

### **EC4T cost wash-up**

The EC4T cost wash-up is designed to recover, or return, any costs that are not known before the electricity tariffs are entered into TABS for billing. Normally it is only the following tariffs that are included in the cost wash-up (for further details on these tariffs, please see [Annex B](#)).

- 'delivery' tariffs;
- hydro levy;
- feed-in tariff; and
- distribution losses.

All of the rates listed, above, are corrected as part of the year-end EC4T cost wash-up. The small exception to this is the 'hydro levy'. The hydro levy is published in July each year, therefore Network Rail 'corrects' the tariff from August to March. The portion from April to July would be corrected through the year-end cost wash-up. The remaining tariffs in [Annex B](#) are not usually corrected at the time of the EC4T cost wash-up, this is because, usually, there is no discrepancy.

The commodity tariff is not always known before the financial year starts. This is because of the hedging strategy operators choose to adopt (as is happening in 2013/14). However, the commodity tariff is always set before the month to which it applies, so the correct rates can be entered into TABS. This also avoids re-billing many thousands of journeys.

Usually, the percentage error on the 'energy' portion of the total electricity tariff (which makes up around 86% of the total electricity cost, on average) is in the range +/- 0.5%. The percentage error on the 'delivery' portion (which makes up around 14% of the total electricity cost, on average) is typically in the range +/- 0.1%.

#### *Reflecting corrections not yet corrected by Network Rail supplier*

Sometimes, there are manifest errors in the grid readings received, which reflect kWh consumption for example false NIL readings for a particular grid meter. Network Rail's electricity suppliers are sometimes unable to correct these errors within the 90 day period after the year end required for the wash-ups. Where this occurs, Network Rail, acting reasonably, proposes 'correcting' these errors in both the cost and volume wash-ups. In such situation, Network Rail will be completely transparent about any corrections made. These errors are relatively rare and can be necessary for spuriously high or low readings.

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<sup>6</sup> Freight traction electricity rates accessible here:

<http://www.networkrail.co.uk/browse%20documents/regulatory%20documents/access%20charges%20reviews/cp4%20charges/g-%20freight%20traction%20electricity%20rates%20for%202009-10.pdf>

### **Drawbacks of current approach**

Although some elements of the tariff may only need correcting in some ESTAs, all of the elements 'washed-up' in the end of year cost wash-up are 'corrected' at a nationwide level, because the current provisions in the track access agreement (TAA) do not allow for costs to be washed-up at any other level.

## ANNEX B – BREAKDOWN OF ELECTRICITY TARIFFS

	Tariff name	Unit of charge	Disaggregation	Process for setting the charge	Designed to recover	Normally included in cost wash-up	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	No – because known in advance of billing	68.6%
	Market participation	pence/kWh	Nationwide	Fixed by supplier	Market trading costs	No – because known in advance of billing	0.2%
	BSUoS	pence/kWh	Nationwide	Fixed by supplier	Real time grid balancing costs	No – because known in advance of billing	2.0%
	Balancing charges	pence/kWh	Nationwide	Fixed by supplier	Demand prediction v actual demand cost	No – because known in advance of billing	0.2%
	Transmission Losses (factor) 1.1%	Factor on energy	Nationwide	Set by National Grid	Losses in NGET system	No – because known in advance of billing	0.8%
	Distribution losses (factor) 1.13%	Factor on energy	supply point specific but assumed nationwide	Rates set by DNOs	Losses in DNO systems	Yes (washed-up nationwide)	0.8%
	Renewables obligation	pence/kWh	Nationwide	Rate set by Government	Incentive for suppliers to source from renewables	No – because known in advance of billing	10.2%
	AAHEDC (Hydro) levy	pence/kWh	Nationwide	Fixed by National Grid in July each year	Subsidy for people in rural areas	Yes (washed-up nationwide)	0.2%
	Feed-in tariff	pence/kWh	Nationwide	Reconciled to actual costs	Subsidy for installation of renewable generation	Yes (washed-up nationwide)	2.8%
‘Delivery’ <sup>7</sup>	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.	Yes (washed-up nationwide)	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	Yes (washed-up nationwide)	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	Yes (washed-up nationwide)	5.1%
	Distribution (NGET Exit)	Fixed	Fixed amount per supply point	Fixed charges for directly connecting to NGET.	Recovers the cost of the connections	Yes (washed-up nationwide)	1.6%
	Distribution (EDF admin)	£/supply point	Fixed amount per supply point	Set by supplier	Recovers fixed costs for supplier	No – because known in advance of billing	0.0%
	Distribution (Metering)	£/supply point	Fixed amount per supply point	Set in our metering contracts	Cost of providing metering & data services	Yes (washed-up nationwide)	0.1%

<sup>7</sup> 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



## ANNEX C – WORKED EXAMPLES

### Purpose of this annex

This annex sets out two simplified worked examples of how the cost wash-up is currently carried out in CP4, and how we are proposing for it to be calculated from the start of CP5.

### Assumptions

In these examples, two operators operate on two ESTAs. We will call them TOC 1 and TOC 2 operating on ESTA x and ESTA y, these represent the entire network (for this example).

In this example TOC 1's overall 'energy' tariff is 6 pence per kWh, and TOC 2's 'energy' tariff is 10 pence per kWh. The difference in tariff reflects the fact that each of the TOCs may have set the commodity portion of their 'energy' tariff at different levels. The non-commodity related 'energy' tariffs would be exactly the same for all TOCs.

All numbers used here are after the volume reconciliation has taken place, and have been created for the purposes of this example only. We have assumed, in this example that there is no third party usage or additional share of the volume wash-up allocated to Network Rail

	TOC 1		TOC 2		Total billed to TOCs (£)	Total billed to NR by EDF (£)	Discrepancy (£)
	Billed to TOC 1 (kWh)	Billed to TOC 1 (£)	Billed to TOC 2 (kWh)	Billed to TOC 2 (£)			
ESTA 'x'	600	64	1,100	124	188	214	-26
'Energy'		36		110	146	154.5	-8.5
'Delivery'		28		14	42	59.5	-17.5
ESTA 'y'	400	46	900	106	152	138	14
'Energy'		24		90	114	120.5	-6.5
'Delivery'		22		16	38	17.5	20.5
<b>Total</b>	<b>1,000</b>	<b>110</b>	<b>2,000</b>	<b>230</b>	<b>340</b>	<b>352</b>	<b>-12</b>

### CP4 worked example

Under the current approach, the year-end total cost discrepancy would be allocated to each operator in proportion to their post volume wash-up EC4T bill. This is set out below:

- Total Network Rail billed to TOCs (after the volume wash-up) = £340
- Network Rail was billed by EDF = £352
- Network Rail to recover = £12
- TOC 1 billed = £110
- TOC 2 billed = £230
- TOC 1 S2 payment = £3.88 (110\*(12/340))
- TOC 2 S2 payment = £8.12 (230\*(12/340))

## CP5 worked example

Under the proposed approach for CP5, the cost discrepancies for 'energy' and 'delivery' costs would be 'washed-up' separately in proportion to their post volume wash-up EC4T bill. It would not matter which is carried out first. However, in this example we explain the 'energy' wash-up first.

### 'Energy' cost wash-up

In this example we assume that one of the non-commodity related 'energy' tariffs, e.g. the hydro levy, that Network Rail billed to all TOCs in all ESTAs was 0.5 pence per kWh, too low. The 0.5 pence per kWh would be pro-rated based on each TOCs' kWh usage, after the volume reconciliation has taken place. Where the 'energy' costs billed by EDF to Network Rail for all TOCs' usage is equal to £275, and the 'energy' costs billed by Network Rail to all TOCs is £260 - the 'energy' discrepancy is £15. The 'energy' cost wash-up factor would be  $15/260$  which is 0.0577.

#### TOC 1

- 'Energy' costs billed by Network Rail to TOC 1 = £60
- TOC 1 S2 payment (in respect of 'energy') = **£3.46** ( $60 \times 0.0577$ )

#### TOC 2

- 'Energy' costs billed by Network Rail to TOC 1 = £200
- TOC 2 S2 payment (in respect of 'energy') = **£11.54** ( $200 \times 0.0577$ )

### 'Delivery' cost wash-up - ESTA x

Where the 'delivery' costs billed by EDF to Network Rail for all TOCs' usage in ESTA x are £59.50 and the 'delivery' costs billed by Network Rail to all TOCs in ESTA x are £42.00 - the 'delivery' cost discrepancy would be £17.50. In this example, the 'delivery' cost wash-up factor for ESTA x would be  $0.4167$  ( $17.50/42.00$ ).

#### TOC 1 in ESTA x

- 'Delivery' costs billed by Network Rail to TOC 1 in ESTA x = £28
- TOC 1 S2 payment (in respect of 'delivery' in ESTA x) = **£11.67** ( $28 \times 0.4167$ )

#### TOC 2 in ESTA x

- 'Delivery' costs billed by Network Rail to TOC 2 in ESTA x = £14
- TOC 2 S2 payment (in respect of 'delivery' in ESTA x) = **£5.83** ( $14 \times 0.4167$ )

### 'Delivery' cost wash-up – ESTA y

Where 'delivery' costs billed by EDF to Network Rail for all TOCs' usage in ESTA y are £17.50 and the 'delivery' costs billed by Network Rail to all TOCs in ESTA y = £38.00 – the

'delivery' cost discrepancy would be £20.50. In this example, the 'delivery' cost wash factor for ESTA y would be 0.5395 (20.50/38.00).

*TOC 1 in ESTA y*

- 'Delivery' costs billed by Network Rail to TOC 1 in ESTA y = £22.00
- TOC 1 S2 rebate (in respect of 'delivery' in ESTA y) = **£11.87** (22\*0.5395)

*TOC 2 in ESTA y*

- 'Delivery' costs billed by Network Rail to TOC 1 in ESTA y= £16.00
- TOC 2 S2 rebate (in respect of 'delivery' in ESTA y) = **£8.63** (16\*0.5395)

**Comparison of CP4 and proposed CP5 approach**

	'Energy' (£)	'Delivery' (ESTA x) (£)	'Delivery' (ESTA y) (£)	Total CP5 (£)	CP4 CP5 (£)	Diff (£)
<b>CP5 TOC 1</b>	3.46	11.67	(11.87)	<b>3.88</b>	<b>3.26</b>	0.62
<b>CP5 TOC 2</b>	11.54	5.83	(8.63)	<b>8.12</b>	<b>8.74</b>	(0.62)

Overall rebate/payment due under the CP5 approach:

- TOC 1 S2 payment = £3.26 (3.46+11.67 - 11.87); i.e. £0.62 less than CP4
- TOC 2 S2 rebate = £8.74 (11.54+5.83 - 8.63); i.e. £0.62 more than CP4

## ANNEX D – PROPOSED DRAFTING

We are proposing to update the legal drafting for the cost wash-up so that it will be more ‘fit for purpose’ in CP5. Our suggested drafting seeks to reflect the way in which we propose for the cost wash-up to be carried out in CP5. The drafting reflects the proposal to reconcile ‘energy’ costs nationally, and ‘delivery’ costs by ESTA (geographic area).

### Proposed drafting for paragraph 18.3 of the Traction Electricity Rules

We are keen to hear your thoughts on the proposed drafting, which is set out below. We propose that this drafting replaces the current paragraphs 18.1 and 18.3 (as consulted on by ORR in July 2013) of the Traction Electricity Rules.

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#### Amended drafting for paragraph 18.1:

*“Timing and scope of volume and cost reconciliation*

18.1 Within 90 days after the end of Relevant Year  $t$ , Network Rail shall calculate, for each train operator  $\omega$ :

(a) supplementary amount  $S1_{t\omega}$ ; and

(b) (following and taking into account the calculation of  $S1_{t\omega}$ ), supplementary amount  $S2_{t\omega}$ ,

which shall be payable by or to the train operator in accordance with this paragraph 18. The calculations of  $S1_{t\omega}$  and  $S2_{t\omega}$  shall be made for all train operators using electric traction.”

#### Proposed drafting for paragraph 18.3:

”18.3 For each train operator  $\omega$ ,  $S2_{t\omega}$  is derived from the following formula:

$$S2_{t\omega} = S2E_{t\omega} + S2D_{gt\omega}$$

where:

$S2E_{t\omega}$  is derived from the following formula:

$$S2E_{t\omega} = EN_{t\omega} \bullet EC_t$$

where:

$EN_{t\omega}$  means Train Operator Energy Costs payable by train operator  $\omega$  in Relevant Year  $t$ ; and

$EC_t$  is a reconciliation factor, derived from the following formula:

$$EC_t = \frac{(CSE_t - CWE_t)}{CWE_t}$$

where:

$CSE_t$  means the traction electricity consumption in respect of the total amount payable by Network Rail to its electricity suppliers in respect of Energy Costs in Relevant Year t;

$CWE_t$  shall be derived from the following formula:

$$CWE_t = TEC_t + EN_{tmn} + NRLOSS_t$$

where:

$TEC_t$  means the summation of traction electricity consumption in respect of all Train Operator Energy Costs across all train operators in Relevant Year t;

$EN_{tmn}$  means the summation across all Geographic Areas g, of the traction electricity consumption in respect of  $L_{tmng}$ , as defined in paragraph 18.2 of these Traction Electricity Rules, for Relevant Year t; and

$NRLOSS_t$  means the traction electricity consumption allocated to Network Rail in the calculation of  $S1_{t\omega}$ , in paragraph 18.2 of these Traction Electricity Rules, across all Geographic Areas g in Relevant Year t.

$S2D_{g\omega}$  is derived from the following formula:

$$S2D_{g\omega} = D_{g\omega} \bullet DC_{tg}$$

where:

$D_{g\omega}$  means Train Operator Delivery Costs payable by train operator  $\omega$  in Geographic Area g in Relevant Year t;

$DC_{tg}$  is a reconciliation factor, derived from the following formula:

$$DC_{tg} = \frac{(CSD_{tg} - CWD_{tg})}{CWD_{tg}}$$

where:



$CSD_{tg}$  means the total amount payable by Network Rail to its electricity suppliers in respect of Delivery Costs in Geographic Area g in Relevant Year t;

$CWD_{tg}$  shall be derived from the following formula:

$$CWD_{tg} = TED_{tg} + EN_{tmng} + NRLOSS_{tg}$$

where:

$TED_{tg}$  means the summation of all Train Operator Delivery Costs across all train operators in Geographic Area g and Relevant Year t;

$EN_{tmng}$  means the Energy Costs in respect of  $L_{tmng}$ , as defined in paragraph 18.2 of these Traction Electricity Rules, for Relevant Year t; and

$NRLOSS_{tg}$  means the amount payable by Network Rail to its electricity suppliers in respect of the traction electricity consumption allocated to Network Rail in the calculation of  $S1_{tgw}$ , in paragraph 18.2 of these Traction Electricity Rules, in Geographic Area g in Relevant Year t.

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### Proposed drafting for paragraph 1.2 of the Traction Electricity Rules

In addition to the amendments proposed to 18.1 and 18.3 of the Traction Electricity Rules we propose to add the following definitions to paragraph 1.2 of the Traction Electricity Rules.

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**“Delivery Costs”** means those components of the traction electricity costs in respect of which the rate charged to Network Rail vary by Geographic Area g. These include costs associated with electricity supply industry transmission and distribution;

**“Energy Costs”** means all traction electricity costs that are not delivery costs;

**“Network Rail Delivery Costs”** means the amount payable by Network Rail to its electricity suppliers in respect of Delivery Costs;

**“Network Rail Energy Costs”** means the amount payable by Network Rail to its electricity suppliers in respect of Energy Costs;

**“Train Operator Energy Costs”** the amount of  $E_t$  (calculated in accordance with Schedule 7 of the relevant train operator’s track access contract) plus  $S1_{tw}$  (calculated in accordance with paragraph 18.2 of these Traction Electricity Rules) payable in respect of Energy Costs;

**“Train Operator Delivery Costs”** the amount of  $E_t$  (calculated in accordance with Schedule 7 of the relevant train operator’s track access contract) plus  $S1_{tgw}$  (calculated in accordance with paragraph 18.2 of these Traction Electricity Rules) payable in respect of Delivery Costs;

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