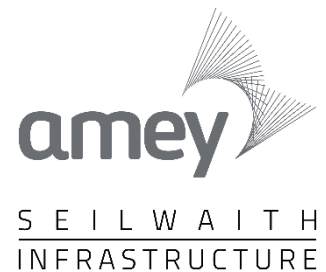




CORE VALLEY LINES

Traction Electricity Rules
Version 1



Explanatory Note

These CVL Traction Electricity Rules set out:

- (A) for the purposes of calculating the Traction Electricity Charge, provisions relating to the calculation of Traction Electricity Charges based on actual metered consumption including:
- (i) the process for collecting electricity consumption data and other related data from metering equipment installed on trains and supplying it to the CVL IM; and
 - (ii) the rules which apply where metered data is missing or not supplied to the CVL IM within the prescribed time;
- (B) a rules change process for amending these CVL Traction Electricity Rules (Note: where the CVL IM carries out an access charges review which relates to track access contracts incorporating these CVL Traction Electricity Rules, any amendments to those track access contracts to give effect to the conclusions of such access charges review may also include amendments to these rules arising out of or in connection with the access charges review, in which case such changes will be made pursuant to that access charges review rather than pursuant to the rules change process set out herein);
- (C) the volume and cost reconciliation provisions that apply to train operators using electric traction; and
- (D) other provisions relating to the procurement and billing of traction electricity.
- (E) Subject to paragraph 2A below, these CVL Traction Electricity Rules will apply to all operators from and including the date on which they are permitted to operate trains on the CVL using electric traction pursuant to the track access contract entered into between the relevant train operator and the CVL IM.
- (F) All electric trains operating on the on the CVL must be capable of interfacing with the AC System (as defined below) via the Track link III infrastructure APCO beacons using train borne readers and have a secondary source of power e.g. batteries.

This Explanatory Note does not form part of the CVL Traction Electricity Rules.

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1. **Definitions and Interpretation**

1.1 Unless otherwise defined in these CVL Traction Electricity Rules or the context requires otherwise, words and expressions used in these CVL Traction Electricity Rules shall have the meanings, constructions and interpretation ascribed to them in the relevant track access contract.

1.2 In these CVL Traction Electricity Rules, unless the context otherwise requires:

“AC System” means the alternating current system of electricity traction supply on the CVL;

“Act” means the Railways Act 1993;

“Charge Correction Amount” has the meaning ascribed to it in paragraph 18.3A of these CVL Traction Electricity Rules;

“Consist Tonnage” means, in respect of a Journey, the weight (in tonnes) of the Specified Equipment for that Journey divided by the number of operating locomotives forming part of such Specified Equipment;

“Consultees” means all Metered Train Operators, all freight or regular scheduled passenger operators of trains using electric traction, and freight or regular scheduled passenger operators of trains that do not use electric traction who give notice to the CVL IM that they are seeking either new track access contracts or amendments to existing track access contracts which will involve them using trains using electric traction;

“Consumption Data” means data in respect of the amount of electricity consumed (in kWh);

“Cost Reconciliation” means, for each train operator ω , the process for the calculation and payment of the supplementary amount $S2\omega$ set out in paragraph 18 of these CVL Traction Electricity Rules;

“CVL IM” means Seilwaith Amey Cymru / Amey Infrastructure Wales Limited, a company registered in England and Wales under registered number 11389544;

“CVL IM Distribution System Loss Factor” means the relevant factor that represents the electrical losses between the On-Train Meter and the CVL IM's meter through which it purchases traction electricity for the AC System in Geographic Area g , as set out in Appendix 3 of these CVL Traction Electricity Rules;

“Data Record” means a record of either: (a) Consumption Data; (b) Regenerative Braking Data; or (c) GPS Data, as the case may be, in respect of each 5-minute period during a Journey or Non-Journey;

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

“Electricity Data” means Consumption Data and (where relevant) Regenerative Braking Data;

“Electricity Type (AC)” means the alternating current system (AC) of electricity supplied through the electrification system;

“EMU Length” means the number of individual vehicles in the electric multiple unit;

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

“ESTA” means Electricity Supply Tariff Area;

“Geographic Area g” means the relevant geographic section of the CVL as set out in Appendix 5;

“GPS Data” means data in respect of geographical location;

“Gross Tonne Mile” or “gtm” means:

- a) for passenger operators, in relation to a train, a mile travelled on the CVL, multiplied by each tonne of the aggregate weight of the train in question; and
- b) for freight operators, in respect of each locomotive, loaded wagon, empty wagon or coaching stock, the Locomotive Miles, Loaded Wagon Miles, Empty Wagon Miles or Coaching Stock Miles multiplied by the relevant Locomotive Weight, Loaded Wagon Weight, Empty Wagon Weight or Coaching Stock Weight respectively;

“Infill Value” means the relevant value in respect of Consumption Data or Regenerative Braking Data, as the case may be, set out in the Journey Look-Up Tables or the value in respect of Consumption Data set out in the Non-Journey Look-Up Table, as the case may be;

“Journey” means a movement of Specified Equipment which has a designated headcode;

“Journey Look-Up Tables” means the tables containing Data Records in respect of Consumption Data and Regenerative Braking Data calculated or otherwise determined in accordance with paragraph 3, the templates for which are set out in Tables 1.1 and 1.2 respectively (in the case of passenger journeys) or Tables 1.3 and 1.4 respectively (in the case of freight and locomotive-hauled passenger journeys) in Appendix 1;

“kgtm” means 1000 Gross Tonne Miles;

“Look-Up Tables” means the Journey Look-Up Tables and the Non-Journey Look-Up Table;

“Metered Charges” means the amounts Etme and EtmuAC which are calculated using metered consumption data in accordance with Schedule 7 of the relevant track access contract;

“Metered Data” means Electricity Data and GPS Data in respect of a train which has been collected from the train’s On-Train Meter;

“Metered Train m” means, as the context requires, either:

- a) a train of a particular type; or

b) a specific train having a train ID,

in either case as specified in Appendix 7D or Appendix 3 to Schedule 7 of the relevant track access contract;

“Metered Train Operator” means a train operator whose Traction Electricity Charge is calculated based on metered consumption data;

“Metering Audit” means the exercise by the CVL IM, the Metered Train Operator or any other train operator of any of the rights set out in paragraph 16.2(A), 16.10 or 16.19 respectively, as the case may be;

“Model B” means the provisions of Schedule 7, Section 3 (Model B) of the relevant track access contract;

“Model B Commencement Date” means the date specified in the latest Multi-Operator Notice on which Model B will come into effect;

“Modelled Train Operator” means a train operator that is charged by the CVL IM for traction electricity based on modelled consumption rates or the Traction Electricity Modelled Default Rate, and which is not a Metered Train Operator;

“Multi-Operator Notice” means the latest notice served by the CVL IM in accordance with paragraph 3 of Section 1 of Schedule 7 to the relevant track access contract; and

“Net Infilled Electricity Data Value” means, in respect of a particular Period, the total value (in kWh) of Data Records for Consumption Data which have been substituted with Infill Values, less the total value (in kWh) of Data Records for Regenerative Braking Data which have been substituted with Infill Values;

“Network Rail Metering Data Interface Specification” means a document which shall be updated by Network Rail from time to time, in which Network Rail shall specify, in accordance with any applicable standards, the manner and format in which Metered Data shall be provided to it;

“New Modelled Train” has the meaning ascribed to it in Schedule 7 of the relevant track access agreement;

“Non-Journey” means a period during which the Specified Equipment is parked or laid up for maintenance or other purposes and is consuming electricity, in relation to which there is no designated headcode;

“Non-Journey Look-Up Table” means a table containing Consumption Data calculated or otherwise determined in accordance with paragraph 3, a template for which is set out in Table 2.1 in Appendix 1;

“Office of Rail and Road” has the meaning ascribed to it in Section 15 of the Railways and Transport Safety Act 2003, and **“ORR”** shall be construed accordingly;

“On-Train Meter” means a meter or other device or technology which measures a train’s actual consumption of electricity, geographic location and, where relevant, electricity generated by braking and **“On-Train Metering”** shall be construed accordingly;

“On-Train Metering Commencement Date” means the date from which Metered Data is first used to calculate all or part of the Metered Train Operator’s

Traction Electricity Charge;

“OTM Incentive Charge” means the additional amount payable by the Metered Train Operator to the CVL IM as a consequence of paragraph 7.1 of these CVL Traction Electricity Rules;

“OTM Incentive Year” means the period of 13 consecutive Periods including and immediately preceding the relevant Trigger Period;

“Period” means:

- a) in the case of passenger operators, each consecutive period of 28 days commencing at 0000 hours on 1 April in each year,

provided that the length of the first and last such Period in any year may be varied by up to seven days on reasonable prior notice from the CVL IM to the train operator; and

- b) in the case of freight operators, each period of 28 days which coincides with a CVL IM accounting period save that:

- (i) the first period and the last period may be of less than 28 days if:

- A. the date of signature of the relevant track access contract does not coincide with the first day of one of the CVL IM's accounting periods; or

- B. the Expiry Date does not coincide with the last day of one of the CVL IM's accounting periods; and

- (ii) the duration of the first and last such period in any Financial Year may be varied so as to coincide with the duration of the CVL IM's accounting periods by notice from the CVL IM to the train operator;

“Regenerative Braking Audit” means the exercise by the CVL IM or a train operator of any of its rights set out in paragraph 16 in relation to the review of any Regenerative Braking System operated by any train operator;

“Regenerative Braking Data” means data in respect of the amount of electricity (in kWh) generated by braking;

“Regenerative Braking Discount” means the discount, applied by the CVL IM in accordance with paragraph 15.1(B) in calculating the train operator's Traction Electricity Charges, which is provided in return for the train operator operating a Regenerative Braking System in respect of any vehicle for which the Traction Electricity Charges are payable based on modelled consumption rates or the Traction Electricity Modelled Default Rate;

“Regenerative Braking System” means a system used to generate electricity by braking;

“Relevant Complaint” means a complaint by a Consultee about the consultation process, or a complaint by a Metered Train Operator or a Modelled Train Operator about any part of the change procedure set out in paragraphs 17.1 to 17.16;

“Relevant Year” means a year commencing at 0000 hours on 1 April and ending at 2359 hours on the following 31 March; **“Relevant Year t”** means the Relevant Year for the purposes of which any calculation falls to be made; **“Relevant Year**

t-1” means the Relevant Year preceding Relevant Year t; and similar expressions shall be construed accordingly;

"Scheduled Call" in relation to the definition of Regenerative Braking Discount above, means a scheduled stop at a station for the purpose of allowing passengers to join or leave the service or train (including the stops where the service or journey starts and ends);

"Specified Equipment" has the meaning ascribed to it in Clause 1.1 of the relevant track access contract;

"tariff band" means the tariff zone and time band in which the train in question is operated;

"TfW" means Transport for Wales, a company (with company number 09476013) wholly owned by the Welsh Ministers;

"TfWRL" means Transport for Wales Rail Ltd, a company registered in England and Wales with company number 12619906;

"Total Net Electricity Data Value" means, in respect of a particular Period, the total value (in kWh) of Data Records for Consumption Data (derived from both Metered Data and Infill Values) less the total value (in kWh) of Data Records for Regenerative Braking Data (derived from both Metered Data and Infill Values);

"Traction Electricity Charge" has the meaning ascribed to it in Schedule 7 of the relevant track access contract;

"Traction Electricity Modelled Consumption Rates List" has the meaning ascribed to it in Schedule 7 to the relevant track access contract;

"Traction Electricity Modelled Default Rate" has the meaning ascribed to it in Schedule 7 to the relevant track access contract;

"Train category" means train category i, as defined in Schedule 7 to the relevant track access contract;

"Traction-Train Compatible" has the meaning ascribed to it in Schedule 7 of the relevant track access contract;

"Train Mile" means in relation to a train, or a portion of a train, a mile travelled by that train, or that portion of a train, on the CVL;

"Train Operator Delivery Costs" means the amount of Et (calculated in accordance with Schedule 7 of the relevant train operator's track access contract) plus S1tw (calculated in accordance with paragraph 18.2 of these CVL Traction Electricity Rules) payable in respect of Delivery Costs;

"Train Operator Energy Costs" means the amount of Et (calculated in accordance with Schedule 7 of the relevant train operator's track access contract) plus S1tw (calculated in accordance with paragraph 18.2 of these CVL Traction Electricity Rules) payable in respect of Energy Costs;

"Train Service Code" in the case of passenger operators has the meaning ascribed to it in paragraph 1.1 of Schedule 5 of the relevant track access contract, and in the case of freight operators means the eight character code used to identify Services ("Services" is defined in Clause 1.1 of the relevant track access contract);

“Trigger Period” has the meaning given to it in paragraph 7.1 of these CVL Traction Electricity Rules;

“Vehicle Mile” (in the case of passenger operators) in relation to a railway vehicle means a mile travelled by that vehicle on the CVL;

“Volume Reconciliation” means, for each train operator ω , the process for the calculation and payment of the supplementary amount $S1\omega$ set out in paragraph 18 of these CVL Traction Electricity Rules; and

“Working Day” has the meaning ascribed to it in Clause 1.1 of the relevant track access contract.

1.3 In these CVL Traction Electricity Rules, unless the context otherwise requires:

(A) These CVL Traction Electricity Rules

References to these CVL Traction Electricity Rules mean these CVL Traction Electricity Rules as modified from time to time.

(B) Appendices and paragraphs

References to appendices and paragraphs are to appendices and paragraphs of these CVL Traction Electricity Rules.

(C) Definitions in the Act

Terms and expressions defined in the Act shall, unless the contrary intention appears, have the same meaning in these CVL Traction Electricity Rules.

(D) Statutory provisions

References to statutory provisions shall be construed as references to those provisions as amended or re-enacted or as their application is modified by other statutory provisions from time to time and shall include references to any statutory provisions of which they are re-enactments (whether with or without modification).

(E) Interpretation Act

Words and expressions defined in the Interpretation Act 1978 shall have the same meaning in these CVL Traction Electricity Rules and the rules of interpretation contained in that Act shall apply to the interpretation of these CVL Traction Electricity Rules.

(F) Include

The words “include” and “including” are to be construed without limitation.

(G) Other documents etc.

Any agreement, instrument, licence, standard, timetable, code or other document referred to in these CVL Traction Electricity Rules or entered into, approved, authorised, accepted or issued by a person pursuant to these CVL Traction Electricity Rules shall be construed, at the particular time, as a reference to that agreement, instrument, licence, standard, timetable, code or other document, as it may then have been amended, varied, supplemented or novated.

(H) Conflict

In the event of any conflict of interpretation between these CVL Traction Electricity Rules and an Access Agreement (not including these CVL Traction Electricity Rules) the following order of precedence shall apply:

- (1) these CVL Traction Electricity Rules; and
- (2) the Access Agreement.

(I) Time limits

Where in these CVL Traction Electricity Rules any obligation of a party is required to be performed within a specified time limit that obligation shall continue after that time limit if the party fails to comply with that obligation within the time limit.

(J) Headings

The headings and references to headings shall be disregarded in construing these CVL Traction Electricity Rules.

(K) Ruling language

All notices served under these CVL Traction Electricity Rules shall be in the English language

2A. Applicability of paragraphs

- 2A.1 While there is only one train operator using traction current power on the CVL the following provisions shall not apply:

Paragraphs	Relating to:
2.2-2.7	On-Train Metering - General
3.1-3.10	Look up tables
4.1-4.2	Missing Data Records (Electricity Data) for Journeys
5.1-5.2	Missing Data Records (Electricity Data) for Non-Journeys
6.1	Missing GPS Data
7.1-7.2	Consequences of use of Infill Values above threshold
8.1	Data to be published by the CVL IM
15.1-15.7	Application of Regenerative Braking Discounts to modelled (and modelled default) consumption rates
16.1-16.22	Metering Audits
18.1-18.5	Volume and Cost Reconciliation for all train operators
20.1	Actual cost of traction electricity when there is more than one train operator using traction power

- 2A.2 All the paragraphs in these CVL Traction Electricity Rules shall apply from the Model B Commencement Date.

2. On-Train Metering - General

- 2.1 The Metered Train Operator shall ensure that its On-Train Meters comply with all relevant industry standards (to the extent that such standards are applicable to the Metered Train Operator).

- 2.2 The Metered Train Operator shall collect Metered Data from all of its On-Train Meters and shall provide such data to the CVL IM in accordance with the Network Rail Metering Data Interface Specification (or as otherwise agreed between that Metered Train Operator and the CVL IM), within 7 (seven) days of the day on which such data was generated.
- 2.3 In the event that any Data Records are missing from the Metered Data collected by the Metered Train Operator, the CVL IM shall provide data calculated in accordance with paragraphs 4, 5 or 6 (as the case may be) in place of such missing Data Records.
- 2.4 In the event that the Metered Train Operator fails to provide any Metered Data to the CVL IM within the 7 (seven) day period referred to in paragraph 2.2, the provisions of paragraphs 4.2 and 5.2 as applicable shall apply for the purposes of calculating that part of the Traction Electricity Charge relating to such data.
- 2.5 The Metered Train Operator shall use reasonable endeavours to notify the CVL IM as soon as reasonably practicable of any changes to information relating to its vehicles (including but not limited to vehicle IDs) which the CVL IM requires for the purposes of calculating that part of the Traction Electricity Charge based on Metered Data (or Infill Values).
- 2.6 Not used.
- 2.7 Each Metered Train Operator acknowledges that, for the purposes of calculating the Traction Electricity Charge, it shall only be charged based on Metered Data in respect of those metered trains specified in Appendix 7D of Part 2 of Schedule 7 (in the case of passenger operators) or Appendix 3 of Schedule 7 (in the case of freight operators) of its track access contract, in accordance with the provisions of that contract once the CVL IM confirms that data-flow and billing system tests have been completed successfully.

3. Look-Up Tables

Journeys

- 3.1 The CVL IM shall create and maintain Journey Look-Up Tables for each Metered Train Operator.
- 3.2 Subject to paragraphs 3.3 and 3.9:
- (A) in the case of non-locomotive-hauled passenger journeys, in relation to each Journey for a particular Train Service Code, Specified Equipment, Geographic Area, Electricity Type (AC), EMU Length and number of units, the Journey Look-Up Tables shall include the mean value of:
 - (1) Consumption Data per 5-minute period; and
 - (2) where relevant, Regenerative Braking Data per 5-minute period,which shall be calculated using Metered Data for the previous Period; or
 - (B) in the case of freight and locomotive-hauled passenger journeys, in relation to each Journey for a particular Train Service Group, Specified Equipment, Geographic Area, Electricity Type (AC) and number of units, the Journey Look-Up Tables shall include the mean value of:
 - (1) Consumption Data per 5-minute period per tonne; and

- (2) where relevant, Regenerative Braking Data per 5-minute period per tonne, which shall be calculated using Metered Data for the previous Period.

- 3.3 If, in the CVL IM's reasonable opinion, there is insufficient Metered Data for a particular Period to update the Journey Look-Up Table in accordance with paragraph 3.2, then the CVL IM and the Metered Train Operator shall seek to agree the values to be included in the Journey Look-Up Table. If the parties are unable to agree within 7 (seven) days after the start of the relevant Period then the CVL IM shall determine (acting reasonably) the values to be included in the Journey Look-Up Table for that Period.

Non-Journeys

- 3.4 The CVL IM shall create and maintain a Non-Journey Look-Up Table for each Metered Train Operator.
- 3.5 Subject to paragraphs 3.6 and 3.9, in relation to Non-Journeys in each Geographic Area for particular Specified Equipment and Electricity Type (AC), the Non-Journey Look-Up Table shall include the mean value of Consumption Data per 5-minute period of each relevant Non-Journey, which shall be calculated using Metered Data for the previous Period.
- 3.6 If, in the CVL IM's reasonable opinion, there is insufficient Metered Data for a particular Period to update the Non-Journey Look-Up Table in accordance with paragraph 3.5, then the CVL IM and the Metered Train Operator shall seek to agree the values to be included in the Non-Journey Look-Up Table. If the parties are unable to agree within 7 (seven) days after the start of the relevant Period then the CVL IM shall determine (acting reasonably) the values to be included in the Non-Journey Look-Up Table for that Period.

General

- 3.7 The CVL IM shall update the Look-Up Tables as soon as reasonably practicable after the start of each Period. The form of the Look-Up Tables shall be as set out in Appendix 1, unless otherwise agreed between the parties.
- 3.8 ORR approval shall not be required for the creation or updating of the Look-Up Tables.
- 3.9 Unless sufficient relevant Metered Data is available in the CVL IM's reasonable opinion, the Journey Look-Up Tables and the Non-Journey Look-Up Tables for the first Period and any subsequent consecutive Period following the On-Train Metering Commencement Date for a particular train category i shall be created using the modelled consumption rates shown in the Traction Electricity Modelled Consumption Rates List and, where relevant, the appropriate Regenerative Braking Discount.
- 3.10 In addition to any other rights of the Metered Train Operator, whether contained in its track access contract or otherwise, copies of the Metered Train Operator's current Look-Up Tables shall be made available by the CVL IM to such Metered Train Operator upon request by the Metered Train Operator at all reasonable times.

4. Missing Data Records (Electricity Data) for Journeys

- 4.1 If, in respect of a Journey, any Data Record in relation to either Consumption Data or Regenerative Braking Data is missing from the Metered Data, the missing Data Record shall be substituted with the relevant Infill Value contained in the Journey Look-Up Tables and (in the case of freight and locomotive-hauled passenger journeys only) multiplied by the Consist Tonnage.
- 4.2 If, in respect of a Journey, Metered Data in respect of Electricity Data is not provided by

the Metered Train Operator to the CVL IM within 7 days (pursuant to paragraph 2.2 above), the missing Data Records for Consumption Data and Regenerative Braking Data shall be substituted with the relevant Infill Values contained in the Journey Look-Up Tables and (in the case of freight and locomotive-hauled passenger journeys only) multiplied by the Consist Tonnage.

5. **Missing Data Records (Electricity Data) for Non-Journeys**

- 5.1 If, in respect of a Non-Journey, any Data Record in relation to either Consumption Data or Regenerative Braking Data is missing from the Metered Data, the missing Data Record shall be substituted with the relevant Infill Value contained in the Non-Journey Look-Up Table.
- 5.2 If, in respect of a Non-Journey, Metered Data in respect of Consumption Data and Regenerative Braking Data is not provided by the Metered Train Operator to the CVL IM within 7 days (pursuant to paragraph 2.2 above), the missing Data Records shall be substituted with the relevant Infill Values contained in the Non-Journey Look-Up Table.

6. **Missing GPS Data**

- 6.1 If, in respect of a Journey, any Data Record is missing from the GPS Data, the missing Data Record shall be interpolated as appropriate using the actual recorded GPS Data.

7. **Consequences of use of Infill Values above threshold**

- 7.1 If, in any Period following the On-Train Metering Commencement Date, the Net Infilled Electricity Data Value expressed as a percentage of the Total Net Electricity Data Value is greater than the percentage shown in Table 7.1: Threshold Percentage table, the OTM Incentive Charge for such Period (the "Trigger Period") shall be as follows:

- (1) in the first Trigger Period in any OTM Incentive Year, the OTM Incentive Charge shall be 5% of the Metered Charges for Infilled Values; and
- (2) in the second or any further Trigger Period in any OTM Incentive Year, the OTM Incentive Charge shall be 10% of the Metered Charges for Infilled Values.

Table 7.1: Threshold percentage table

Period Since On-Train Metering Commencement Date				
Periods 1-3	Periods 4-6	Periods 7-9	Periods 10-13	All later Periods
30%	25%	20%	15%	10%

- 7.2 The CVL IM shall pay to each Metered Train Operator which consumes traction electricity a portion of the total amount of all OTM Incentive Charges received by the CVL IM from Metered Train Operators pursuant to paragraph 7.1 in each Relevant Year for such train operator for that Relevant Year, calculated in accordance with the following formula:

$$PTO_t = \frac{A_t \times TIC_t}{B_t}$$

where:

PTOt means the proportional amount of OTM Incentive Charges payable to the train operator for

Relevant Year t;

At means the amount of the train operator's metered Traction Electricity Charge in Relevant Year t (where relevant, following the Cost Reconciliation);

Bt means the total amount of metered Traction Electricity Charges (where relevant, following the Cost Reconciliation) for all train operators in Relevant Year t; and

TICt means the total OTM Incentive Charges received by the CVL IM from all Metered Train Operators pursuant to paragraph 7.1 in Relevant Year.

8. Not Used

9. Not Used

10. CVL IM Distribution System Loss Factor

10.1 Appendix 3 to these CVL Traction Electricity Rules sets out the CVL IM Distribution System Loss Factor for the AC System (λ_{ACg}) in Geographic Area g for the purposes of calculating the Traction Electricity Charge.

11. Not used

12. Not used

13. Not used

14. Not Used

15. Application of Regenerative Braking Discounts to modelled (and modelled default) consumption rates

15.1

- (A) A train operator who operates a Regenerative Braking System for any of its Relevant Vehicle Categories is entitled to receive a Regenerative Braking Discount in respect of each such Relevant Vehicle Category, subject to the provisions of this paragraph 15.
- (B) The CVL IM, acting reasonably, will decide the level of Regenerative Braking Discount to apply to each of the train operator's service codes in a manner that, overall, best reflects the distances between the Scheduled Calls of the Journeys within that service code. The levels of Regenerative Braking Discount are applied by reducing the relevant modelled consumption rate and/or Traction Electricity Modelled Default Rate (as the case may be) by the percentage discount specified below:

Type of infrastructure / service frequency	Discount (%)
AC, Long Distance (more than 10 miles between stations)	16%
AC, Suburban (less than or equal to 10 miles between stations)	22%

Opting in process

- 15.2 A train operator who, as at 31 March 2014, was already receiving a Regenerative Braking Discount in respect of a Relevant Vehicle Category shall continue to receive such discount unless otherwise provided for by this paragraph 15. In respect of other Relevant Vehicle Categories, a train operator who wishes to receive a Regenerative Braking Discount shall follow the opting-in process in accordance with 15.2(A) to 15.2(C) below.
- (A) The train operator shall notify the CVL IM in writing to request that a Regenerative Braking Discount be applied. The notification given by the train operator shall set out: (i) the Relevant Vehicle Categories in respect of which the train operator wishes to receive the Regenerative Braking Discount; and (ii) any other information that the train operator considers the CVL IM would require in reviewing its request.
 - (B) The train operator shall provide promptly any other information which the CVL IM, acting reasonably, considers that it requires in connection with the train operator's request under paragraph 15.2(A).
 - (C) Within 28 days of receipt of the notification given by the train operator in accordance with paragraph 15.2(A) above, the CVL IM shall determine, acting reasonably, whether a Regenerative Braking Discount should be applied to the notified Relevant Vehicle Categories and the level of that discount. The CVL IM shall notify the train operator in writing of its decision and, if it determines that a Regenerative Braking Discount should be applied, of the date when the Regenerative Braking Discount shall start to be applied, which shall be the beginning of the next Period unless the train operator and the CVL IM agree otherwise.

Train operator's obligation to maintain its Regenerative Braking Systems

- 15.3 The train operator shall use reasonable endeavours to ensure that the Regenerative Braking System for each vehicle in respect of which it receives a Regenerative Braking Discount continues to function effectively, such that the application of a Regenerative Braking Discount continues to be appropriate.

Regenerative Braking Discount change process

- 15.4 The train operator shall notify the CVL IM promptly in writing if, in respect of one or more of its Relevant Vehicle Categories, it considers that either:
- (A) a Regenerative Braking Discount should no longer be applied; or
 - (B) the level of Regenerative Braking Discount currently applied should be changed.
- 15.5 The CVL IM shall either cease applying a Regenerative Braking Discount or change the level of Regenerative Braking Discount, as appropriate, in respect of any of the train operator's Relevant Vehicle Categories in the following circumstances only:
- (A) to give effect to the train operator's notification in accordance with paragraph 15.4 above;
 - (B) where any of the train operator's Relevant Vehicle Categories cease to be billed on the basis of either of the modelled consumption rates or the Traction Electricity Modelled Default Rate, in which case the discount shall cease to apply in respect of such Relevant Vehicle Categories; or
 - (C) where, following a Regenerative Braking Audit conducted in accordance with paragraph 16 below, the CVL IM (acting reasonably) identifies that, in respect of

one or more of the train operator's Relevant Vehicle Categories, either a Regenerative Braking Discount should no longer be applied or the level of Regenerative Braking Discount currently applied should be changed.

15.6 In the case of a notification served by the train operator under:

- (A) paragraph 15.4(A) above, the CVL IM shall cease to apply the Regenerative Braking Discount from the start of the next Period following the date of the notice, or such other time as the CVL IM may determine, having first consulted the train operator; or
- (B) paragraph 15.4(B) above, promptly following the notice, the CVL IM shall confirm the appropriate level of Regenerative Braking Discount that should be applied and shall apply this level with effect from the date that, acting reasonably, it determines is appropriate, having first consulted the train operator.

List of train operators receiving a Regenerative Braking Discount

15.7 The CVL IM shall maintain, and make available on its website, a list of the Relevant Vehicle Categories which receive a Regenerative Braking Discount for each train operator. The CVL IM shall update this list within 28 days of any change taking effect.

16. Metering Audits and Regenerative Braking Audits

CVL IM Metering Audit and Regenerative Braking Audit

16.1 The Metered Train Operator shall, for a period of not less than two years, keep all data supplied by or on behalf of that Metered Train Operator to the CVL IM in connection with On-Train Metering and all data used in or relating to the collection or creation of such data, and all material information relating to the supply, collection or creation of such data.

16.2 In addition to any other rights of the CVL IM, including without limitation any rights set out in these CVL Traction Electricity Rules or in any other provisions of the track access contract and subject to paragraph 16.8, the CVL IM may, at the CVL IM's cost and expense upon giving not less than 5 (five) Working Days prior notice to the train operator, but no more than once in any Relevant Year:

- (A) audit and inspect and take copies of such books, documents, data and other information (whether stored electronically or otherwise);
- (B) question such employees of the train operator and any of its agents, contractors, sub-contractors and consultants; and
- (C) inspect and/or test any On-Train Meters,

as the CVL IM may reasonably require to verify either: (i) the accuracy of the data supplied to it by the Metered Train Operator pursuant to these CVL Traction Electricity Rules; or (ii) whether, in respect of one or more of the train operator's Relevant Vehicle Categories, either a Regenerative Braking Discount should not have applied or that a different level of Regenerative Braking Discount from the one currently applied should have applied. Where the train operator is party to more than one track access contract with the CVL IM, the CVL IM shall, if it wishes to exercise its rights to carry out a Metering Audit or a Regenerative Braking Audit as the case may be, in respect of more than one of those contracts, exercise such rights simultaneously and not separately during any Relevant Year.

- 16.3 The train operator shall, at the CVL IM's cost and expense (subject to paragraph 16.8), procure that its agents, contractors, sub-contractors and consultants shall provide such access to the CVL IM as is reasonably necessary for the purposes of the Metering Audit or the Regenerative Braking Audit.
- 16.4 If:
- (A) following a Metering Audit carried out by the CVL IM, any data is found by the CVL IM to be materially inaccurate; or
 - (B) following a Regenerative Braking Audit carried out by the CVL IM, the CVL IM finds, in respect of one or more of the train operator's Relevant Vehicle Categories, either a Regenerative Braking Discount should not have applied or that a different level of Regenerative Braking Discount from the one currently applied should have applied,
- the CVL IM shall notify the train operator in writing and shall provide evidence (in a reasonable level of detail) of such inaccuracy or in support of its findings, and details of any consequential financial adjustment which is required to be made to any amount paid or payable by any train operator.
- 16.5 The train operator shall be entitled, within 14 days following receipt of notice from the CVL IM pursuant to paragraph 16.4, to notify the CVL IM in writing that it objects to the findings of the CVL IM's Metering Audit or Regenerative Braking Audit, as the case may be. Any such notice shall specify in reasonable detail the reasons for such objection (and what that Metered Train Operator believes to be the accurate data) ("**notice of objection**"). In the absence of any notice of objection being served within such time the findings of the CVL IM's Metering Audit or Regenerative Braking Audit as the case may be, shall be deemed to be accepted by the train operator and shall be final and binding on the parties.
- 16.6 The parties shall seek to agree the details specified in any notice of objection and any consequential financial adjustment required. If the parties are unable to agree within 28 days following receipt of a notice of objection, the matter shall be determined at the request of either party in accordance with the CVL ADRR, and where the dispute is allocated in accordance with the CVL ADRR to arbitration under Chapter F of the CVL ADRR:
- (A) the parties shall use their respective endeavours to ensure a joint paper setting out their respective positions on the matter in dispute is agreed for delivery to the arbitrator no later than 14 days following the expiration of a period of 28 days following receipt of a notice of objection;
 - (B) the parties shall each request that the arbitrator's decision in writing (following any discussions or meetings between or with the parties that the arbitrator considers necessary) is delivered to the parties within 56 days of his appointment and that the arbitrator establish such rules and procedures for the conduct of the arbitration as he sees fit having regard to such timescale; and
 - (C) each of the parties shall accept and abide by the rules and procedures established by the arbitrator under paragraph 16.6(B).
- 16.7 Any consequential financial adjustment which is required to be made to any amounts paid or payable by any train operator pursuant to paragraph 16.4 or 16.5 shall be made through the Volume Reconciliation carried out in respect of the Relevant Year in which such amounts were paid or payable.

16.8 Where:

- (A) as a result of a Metering Audit carried out by the CVL IM, any data supplied by the Metered Train Operator to the CVL IM pursuant to these CVL Traction Electricity Rules is shown to be inaccurate in any material respect; or
- (B) as a result of a Regenerative Braking Audit carried out by the CVL IM, it is found that a train operator is not entitled to any or all of the Regenerative Braking Discount it has claimed,

that train operator shall bear all costs (including costs incurred by the CVL IM) of the Metering Audit or the Regenerative Braking Audit, as the case may be.

Metered Train Operator Metering Audit

16.9 The CVL IM shall, for a period of not less than seven (7) years, keep all data used in or relating to the calculation of the Metered Charges including all Metered Data provided to it in accordance with these CVL Traction Electricity Rules.

16.10 In addition to any other rights of the Metered Train Operator, including without limitation any rights set out in these CVL Traction Electricity Rules or in any other provisions of its track access contract and subject to paragraph 16.16, the Metered Train Operator may, at that Metered Train Operator's cost and expense, upon giving not less than 5 (five) Working Days prior notice to the CVL IM, but no more than once in any Relevant Year:

- (A) audit and inspect and take copies of such books, documents, data and other information (whether stored electronically or otherwise);
- (B) question such employees of the CVL IM and any of its agents, contractors, sub-contractors and consultants; and
- (C) inspect and/or test any model or other application used by the CVL IM in the calculation of the Metered Charges,

as the Metered Train Operator may reasonably require to verify the accuracy of the Metered Charges. Where the Metered Train Operator is party to more than one track access contract, the Metered Train Operator shall, if it wishes to exercise its rights to carry out a Metering Audit in respect of more than one of those contracts, exercise such rights simultaneously and not separately during any Relevant Year.

16.11 The CVL IM shall, at the Metered Train Operator's cost and expense (subject to paragraph 16.16), procure that its agents, contractors, sub-contractors and consultants shall provide such access to the Metered Train Operator as is reasonable for the purposes of the Metering Audit.

16.12 If following a Metering Audit carried out by the Metered Train Operator any Metered Charges are found by the Metered Train Operator to be materially inaccurate, the Metered Train Operator shall notify the CVL IM in writing and shall provide evidence (in a reasonable level of detail) of such inaccuracy and details of any consequential financial adjustment which is required to be made to any amounts paid or payable by the Metered Train Operator or any other train operator.

16.13 The CVL IM shall be entitled within 14 days following receipt by the CVL IM of notice from the Metered Train Operator pursuant to paragraph 16.12, to notify the Metered Train Operator in writing that it objects to the findings of the Metered Train

Operator's Metering Audit. Any such notice shall specify in reasonable detail the reasons for such objection and what the CVL IM believes to be the relevant charges for the purposes of such Metering Audit ("**notice of objection**"). In the absence of any notice of objection being served within such time the findings of the Metered Train Operator's Metering Audit shall be deemed to be accepted by the CVL IM and shall be final and binding on the parties.

16.14 The parties shall seek to agree the details specified in any notice of objection and any consequential financial adjustment required. If the parties are unable to agree such charges within 28 days following receipt of a notice of objection, the matter shall be determined at the request of either party in accordance with the CVL ADRR, and where the dispute is allocated in accordance with the CVL ADRR to arbitration under Chapter F of the ADRR:

- (A) the parties shall use their respective endeavours to ensure a joint paper setting out their respective positions on the matter in dispute is agreed for delivery to the arbitrator no later than 14 days following the expiration of a period of 28 days following receipt of a notice of objection;
- (B) the parties shall each request that the arbitrator's decision in writing (following any discussions or meetings between or with the parties that the arbitrator considers necessary) is delivered to the parties within 56 days of his appointment and that the arbitrator establish such rules and procedures for the conduct of the arbitration as he sees fit having regard to such timescale; and
- (C) each of the parties shall accept and abide by the rules and procedures established by the arbitrator under paragraph 16.14(B).

16.15 Any consequential financial adjustment which is required to be made to any amounts paid or payable by the Metered Train Operator or any other train operator pursuant to paragraph 16.12 or 16.14 shall be made through the Volume Reconciliation carried out within 90 days after the end of the Relevant Year in which such amounts were paid or payable.

16.16 Where any Metered Charges are shown as a result of a Metering Audit carried out by the Metered Train Operator to be inaccurate in any material respect, the CVL IM shall bear the reasonable costs of the Metering Audit and the Metered Train Operator shall issue an invoice to the CVL IM in the amount of those costs.

Additional Metering Audits or Regenerative Braking Audits by the CVL IM or the Metered Train Operator

16.17 Neither the CVL IM nor the Metered Train Operator shall be entitled to carry out more than one Metering Audit of one another in any Relevant Year, without the prior written consent of ORR. If either party wishes to carry out more than one Metering Audit of one another in any Relevant Year, such party shall notify ORR in writing, providing reasons why it considers that an additional Metering Audit is required.

16.18 The CVL IM shall not be entitled to carry out more than one Regenerative Braking Audit of the train operator in any Relevant Year, without the prior written consent of ORR. If the CVL IM wishes to carry out more than one such audit in any Relevant Year, it shall notify ORR in writing, providing reasons why it considers that an additional Regenerative Braking Audit is required.

16.19 If ORR consents to either party carrying out more than one Metering Audit, or to the CVL IM carrying out more than one Regenerative Braking Audit, as the case

may be, in any Relevant Year, any such additional audit shall be carried out by either the CVL IM in accordance with the procedure set out in paragraphs 16.2 to 16.8 (inclusive) or by the Metered Train Operator in accordance with the procedure set out in paragraphs 16.9 to 16.16 (inclusive) (as the case may be), with such provisions being deemed to apply with such changes as are necessary in order to give effect to this paragraph 16.19.

Metering Audit and Regenerative Braking Audit requests by third party train operators

16.20 Any train operator may submit a request to the CVL IM for a Metering Audit or Regenerative Braking Audit to be carried out in respect of any other train operator as appropriate. Such request shall be in writing and shall specify the reasons why the train operator considers that a Metering Audit or Regenerative Braking Audit, as the case may be, is necessary.

16.21 If ORR consents to such request, such Metering Audit or Regenerative Braking Audit, as the case may be, shall be carried out by the CVL IM on behalf of such train operator in accordance with the procedure set out in paragraphs 16.2 to 16.7 (inclusive), with such provisions being deemed to apply with such changes as are necessary in order to give effect to this paragraph 16.21.

16.22 Where:

- (A) as a result of a Metering Audit carried out pursuant to paragraph 16.21, any data supplied by the Metered Train Operator to the CVL IM pursuant to these CVL Traction Electricity Rules is shown to be inaccurate in any material respect; or
- (B) as a result of a Regenerative Braking Audit carried out pursuant to paragraph 16.21, it is found that the train operator was not entitled to any or all of the Regenerative Braking Discount it has claimed,

the train operator who was the subject of the audit shall bear the reasonable costs of the Metering Audit or Regenerative Braking Audit, as the case may be, and in all other cases such costs shall be borne by the train operator who requested the audit.

Time for completion of a Metering Audit

16.23 Any Metering Audit or Regenerative Braking Audit, (including the resolution of any dispute arising out of such audit in accordance with paragraph 16.6 or 16.14, as the case may be) shall be concluded no later than 28 days after the end of the Relevant Year in which the Metering Audit or Regenerative Braking Audit was commenced. If any dispute arising out of such Metering Audit is not resolved within such time the findings of such Metering Audit or Regenerative Braking Audit, shall be final and binding on the parties.

17. Changes to these CVL Traction Electricity Rules

Entitlement to make Proposed Rules Change

17.1 A proposal to change these CVL Traction Electricity Rules (a “**Proposed Rules Change**”) may be made by:

- (A) a Metered Train Operator or a Modelled Train Operator save in respect of a proposal to change Appendix 3 (CVL IM Distribution System Loss Factors) or Appendix 5 (The Geographic Areas);

- (B) the CVL IM; or
 - (C) ORR,
- (in each case a “**Proposing Party**”).

17.2 Any such proposal shall:

- (A) be sent to the CVL IM (except where the CVL IM is the Proposing Party);
- (B) be in writing;
- (C) specify the wording of the Proposed Rules Change and the date or series of dates on which it is proposed that it come into effect, if other than the period of 14 days after any approval notified by ORR pursuant to paragraph 17.16 below; and
- (D) be supported by an explanation in reasonable detail of the reasons for the Proposed Rules Change.

Notice of Proposed Rules Change

17.3 The CVL IM shall, when making a Proposed Rules Change, or, within 7 days following receipt of a Proposed Rules Change, or, if later, within 7 days following receipt of any clarification that the CVL IM may reasonably request from the Proposing Party:

- (A) give notice of that Proposed Rules Change to the Consultees and ORR, as applicable, unless any such person has notified the CVL IM that it does not wish to receive notice of a Proposed Rules Change; and
- (B) invite the submission to the CVL IM of written representations in respect of that proposal within such period as is reasonable in all the circumstances (the “**Consultation Period**”), being a period of not less than 28 days from the date of notification under paragraph (A) above. The CVL IM may make a written representation if it considers it appropriate to do so.

17.4 A Proposing Party shall promptly comply with all reasonable written requests of the CVL IM for further clarification of the Proposed Rules Change.

17.5 The CVL IM shall, within 7 days of the end of the Consultation Period, publish all written representations received in accordance with paragraph 17.3(B) above on its website, and shall send copies of the same to the Proposing Party.

17.6 The Proposing Party shall consider all written representations received from the CVL IM in accordance with paragraph 17.5 above. If and to the extent the Proposing Party considers it appropriate, it shall modify its Proposed Rules Change to take account of such representations in accordance with paragraph 17.7 below. If the Proposing Party considers that no modification is required, the Proposed Rules Change shall be put to a vote in accordance with paragraph 17.9 below, save where the Proposed Rules Change is made by the CVL IM in respect of Appendix 3 (CVL IM Distribution System Loss Factors) or Appendix 5 (The Geographic Areas) in which case the CVL IM shall as soon as reasonably practicable submit the proposal to ORR in accordance with paragraph 17.13 below (without it being put to a vote in accordance with paragraph 17.9).

- 17.7 If the Proposing Party makes any modifications to its original Proposed Rules Change, together with the CVL IM it shall take appropriate action as follows:
- (A) if either of the Proposing Party or the CVL IM consider that the modification is material, the Proposing Party shall provide the CVL IM with the modified Proposed Rules Change in writing, and the provisions of paragraphs 17.1 to 17.6 inclusive shall apply as if set out again in full, save that the Consultation Period in respect of the modified Proposed Rules Change (the “**Re-Consultation Period**”) shall be 21 days (or longer if the Proposing Party so elects); or
 - (B) if both the Proposing Party and the CVL IM consider that the modification is immaterial, the modified proposal shall be put to a vote in accordance with paragraph 17.9 below, save where the Proposed Rules Change is made by the CVL IM in respect of Appendix 3 (CVL IM Distribution System Loss Factors) or Appendix 5 (The Geographic Areas) in which case the CVL IM shall as soon as reasonably practicable submit the proposal to ORR in accordance with paragraph 17.13 below (without it being put to a vote in accordance with paragraph 17.9).
- 17.8 If the Proposing Party considers it appropriate to make further modifications to the Proposed Rules Change after the Re-Consultation Period, paragraph 17.7 shall apply again, and this process shall continue until no further material modifications are made, at which point the modified Proposed Rules Change shall be put to a vote in accordance with paragraph 17.9 below, save where the Proposed Rules Change is made by the CVL IM in respect of Appendix 3 (CVL IM Distribution System Loss Factors) or Appendix 5 (The Geographic Areas) in which case the CVL IM shall as soon as reasonably practicable submit the proposal to ORR in accordance with paragraph 17.13 below (without it being put to a vote in accordance with paragraph 17.9).

Voting on a Proposed Rules Change

- 17.9 Save where a Proposed Rules Change is made by the CVL IM in respect of Appendix 3 (CVL IM Distribution System Loss Factors) or Appendix 5 (The Geographic Areas), the CVL IM shall promptly arrange for a vote to take place on whether a Proposed Rules Change is accepted or not, as follows:
- (A) the vote shall be open to Metered Train Operators, Modelled Train Operators and the CVL IM, who shall each cast one vote either for or against each Proposed Rules Change, as they consider appropriate;
 - (B) The CVL IM shall specify a period for casting a vote, which shall be open for voting for not less than 7 days; and
 - (C) the vote shall be conducted by e-mail.
- 17.10 A Proposed Rules Change shall have been endorsed only if a majority of the votes cast are in favour of the relevant Proposed Rules Change, provided that the failure of a party timeously to vote or a party intimating its abstention shall be treated as abstentions and not be included in the counting of votes to ascertain whether the Proposed Rules Change has been endorsed or rejected.
- 17.11 If the vote taken in accordance with paragraph 17.9 above endorses the Proposed Rules Change, the CVL IM shall as soon as reasonably practicable submit the proposal to ORR in accordance with paragraph 17.13 below.
- 17.12 If the vote taken in accordance with paragraph 17.9 above rejects the Proposed

Rules Change, the CVL IM shall as soon as reasonably practicable notify the Proposing Party of that decision.

ORR Consent

- 17.13 When submitting a proposal to ORR, the CVL IM shall include a written memorandum:
- (A) containing details of the results of the consultation process (including copies of all representations made pursuant to paragraph 17.3(B) above, and any responses the Proposing Party may have made to the same);
 - (B) stating the results of any vote conducted pursuant to paragraph 17.9 above (including identifying how each relevant party voted); and
 - (C) stating the date or series of dates upon which it is considered that the proposal is to take effect, the first date being no earlier than 14 days after the date on which ORR consents to the proposal.
- 17.14 The Consultees and the CVL IM shall use their respective reasonable endeavours to provide any further information required in relation to the consideration of a Proposed Rules Change by ORR.
- 17.15 No Proposed Rules Change shall have effect unless ORR gives notice to the CVL IM in writing that it consents to the proposal. As part of its consent process, ORR may have regard to whether modifications made to the Proposed Rules Change and classed as immaterial in accordance with paragraph 17.7(B) above should in fact have been classed as material (and therefore should have been subject to a re-consultation).
- 17.16 If ORR consents to the proposed change the CVL IM shall ensure that all Consultees shall be notified within 7 days of ORR's consent of the change and its effective date. Unless ORR otherwise determines, the effective date shall be 14 days from the date of the notification given by the CVL IM pursuant to this paragraph 17.16.

Procedural Irregularities

- 17.17 If before the effective date or dates of any change (as notified under paragraph 17.16 above) a Relevant Complaint is made to ORR concerning a failure to comply with any part of the procedure relating to the relevant Proposed Rules Change, paragraph 17.18 shall apply.
- 17.18 In considering any Relevant Complaint, it shall be open to ORR to determine either that:
- (A) the change should become effective on the date notified under paragraph 17.16 above or any alternative date ORR considers appropriate in the circumstances; or
 - (B) the change should not become effective on the date notified under paragraph 17.16 above and to the extent ORR considers appropriate the rules change process in paragraphs 17.1 to 17.12 above shall be re-run.
- 17.19 A change in respect of which a complaint has been made under paragraph 17.17 above shall not become effective unless ORR makes a determination under paragraph 17.18(A) above.

- 17.20 If a complaint is made to ORR concerning a failure to comply with any part of the procedure relating to a Proposed Rules Change after the effective date or dates of any change, such change will remain in full force and effect as though no complaint had been made.

Modification of the CVL Traction Electricity Rules by ORR

- 17.21 A modification made by ORR in accordance with paragraphs 17.22 to 17.27 below, does not need to be proposed in accordance with paragraphs 17.1 to 17.4 above.
- 17.22 The CVL Traction Electricity Rules shall have effect with the modifications specified in any notice given by ORR for the purposes of these paragraphs 17.22 to 17.27, provided that:
- (A) ORR shall be satisfied as to the need for the modification as provided in paragraph 17.23 below;
 - (B) the procedural requirements of paragraph 17.25 below shall have been satisfied; and
 - (C) the modification shall not have effect until the date provided for in paragraph 17.26 below.
- 17.23 Subject to paragraph 17.24 below, a notice given by ORR under paragraph 17.22 above shall have effect if it is satisfied on reasonable grounds that either or both of the following conditions has been satisfied:
- (A) the modification in question is or is likely to be reasonably required in order to promote or achieve the objectives specified in section 4 of the Act; and/or
 - (B) the interests of any relevant person would be unfairly prejudiced if the modification in question were not made, and the need to avoid or remedy such unfair prejudice outweighs or is likely to outweigh any prejudice which will or is likely to be sustained by any other relevant person or persons if the modification is made, having due regard to the need to enable relevant persons to plan the future of their businesses with a reasonable degree of assurance.
- 17.24 ORR may give a notice under paragraph 17.22 above without the conditions in paragraph 17.23 being satisfied where the modification which is the subject of ORR's notice relates to an amendment to paragraphs 17.1 to 17.20 above and is necessary, in the opinion of ORR, to remedy an inefficiency in the change process contained within those paragraphs.
- 17.25 The procedural requirements which require to have been followed for the purposes of paragraph 17.22 above are:
- (A) in its consideration of the matters referred to in paragraph 17.23 above, ORR shall have consulted the CVL IM and the Consultees together with any other persons which ORR considers ought properly to be consulted, in relation to the modification which it proposes to make;
 - (B) in the consultation referred to in paragraph 17.25(A) ORR have made available to each person so consulted such drafts of the proposed modification as it shall consider are necessary so as properly to inform such persons of the detail of the proposed modification;

- (C) ORR shall have given each person so consulted the opportunity to make representations in relation to the proposed modification and shall have taken into account all such representations received within the time specified by ORR for such consultation (other than those which are frivolous or trivial) in making its decision on the modification to be made;
 - (D) ORR shall have notified each person consulted pursuant to paragraph 17.25(A) as to its conclusions in relation to the modification in question (including by providing to each such person a copy of the text of the proposed modification) and its reasons for those conclusions; and
 - (E) in effecting the notifications required by paragraph 17.25(D), ORR may have regard to any representation (including any submission of written material) which (and to the extent that) the person making the representation shall, by notice in writing to ORR or by endorsement on the representation of words indicating the confidential nature of such representation, have specified as confidential information.
- 17.26 A notice under paragraph 17.22 above shall have effect upon such date, or the happening of such event, as shall be specified in the notice, provided that it shall in no circumstances have effect earlier than 90 days after the date upon which it shall have been given, with the exception of a notice to which paragraph 17.24 above applies, in which case the notice shall have effect 28 days after the date upon which it shall have been given.
- 17.27 A notice under paragraph 17.22 above shall not have effect in relation to any proposed modification of paragraphs 17.22 to 17.26 (inclusive) or this paragraph 17.27.

CVL IM's role as secretariat

- 17.28 The CVL IM shall arrange for the publication on a website containing:
- (A) the current version of the CVL Traction Electricity Rules (which for the avoidance of doubt includes the appendices);
 - (B) Not Used;
 - (C) any current Proposed Rules Changes together with any representations received in response to the same;
 - (D) Not Used; and
 - (E) Not Used.
- 17.29 The CVL IM shall maintain an up-to-date list of Modelled Train Operators and Metered Train Operators, and make it available, on request, to train operators at all reasonable times.
- 17.30 The CVL IM shall, as soon as reasonably practicable following issue of a notice under paragraph 17.22 above or following consent to a Proposed Rules Change by the ORR, supply to all Metered Train Operators and all Modelled Train Operators a revised version of the CVL Traction Electricity Rules (which for the avoidance of doubt includes the appendices) incorporating the change.

18. Volume and Cost Reconciliation for all train operators

Timing and scope of Volume and Cost Reconciliation

18.1 Within 90 days after the end of Relevant Year t, the CVL IM will calculate, for each train operator ω :

- (A) supplementary amount $S1t\omega$;
- (B) the Charge Correction Amount; and
- (C) (following and taking into account the calculation of $S1t\omega$) supplementary amount $S2t\omega$,

which shall be payable by or to the train operator in accordance with this paragraph 18. The calculations of $S1t\omega$, the Charge Correction Amount and $S2t\omega$ shall be made for all train operators using electric traction.

Volume Reconciliation

18.2 For each train operator ω , $S1t\omega$ is derived from the following formula:

$$S1t\omega = \sum S1tg\omega, \text{ summed over } g$$

where, for each Geographic Area g, $S1tg\omega$ is derived from the following formula:

$$S1tg\omega = Etmog\omega \bullet (Agt - Ltmog - Ltmeg - Ltmug - Ltmng) / (Ltmog + Ltmng + (\lambda g / (1 + \lambda g))) \bullet Agt$$

where:

Etmog_ω means the amount Etmog calculated for each train operator ω in accordance with paragraph 4.1.2 of Part 2 (in the case of passenger operators) and paragraph 2.4.1.2 (in the case of freight operators) of Schedule 7 of the relevant train operator's track access contract;

Agt means the total actual electricity consumption (in kWh), if any, in Geographic Area g in Relevant Year t billed to the CVL IM by its electricity suppliers in that Geographic Area for traction electricity consumed in accordance with the terms for the purchase of traction electricity entered into by the CVL IM;

Ltmog means the total modelled traction electricity consumption (including any consumption calculated using the Traction Electricity Modelled Default Rate) charged to all train operators in Geographic Area g and in Relevant Year t which is derived from the following formula:

$$Ltmog = \sum C_i \bullet UE_{ij}t$$

where:

Σ means the summation across all train categories i, New Modelled Trains and tariff bands j for Relevant Year t for all train operators, as appropriate;

C_i means, as appropriate:

(a) the consumption rate:

(i) in kWh per electrified Train Mile in relation to passenger electric multiple units (using the rate for the relevant number of units); or

(ii) in kWh per electrified kgm in relation to locomotive-hauled units and all freight traffic,

for train category i shown in the Traction Electricity Modelled Consumption Rates List taking into account any Regenerative Braking Discount applied in accordance with these CVL Traction Electricity Rules or, if a PFM Rate applies in accordance with these CVL Traction Electricity Rules, the PFM Rates List; or

(b) for New Modelled Trains, the Traction Electricity Modelled Default Rate shown in the Traction Electricity Modelled Consumption Rates List, taking into account any Regenerative Braking Discount applied in accordance with these CVL Traction Electricity Rules;

$UE_{ij}t$ means the actual volume of usage (in electrified Vehicle Miles in relation to passenger electric multiple units or electrified kgm in relation to locomotive-hauled units and all freight traffic), if any, of trains operated in Relevant Year t by or on behalf of all train operators in train category i and New Modelled Trains operated by or on behalf of all train operators, in Geographic Area g, where relevant, in tariff band j and in Relevant Year t, provided that where train category i or a New Modelled Train is a Bimodal Electric Multiple Unit or Bimodal Locomotive operating in a Traction-Train Compatible situation, it shall be deemed that all mileage (in Vehicle Miles in relation to passenger electric multiple units or kgm in relation to locomotive-hauled units and all freight traffic), if any,

of such trains is electrified, in respect of which charges for traction electricity consumption are payable based on modelled consumption rates pursuant to paragraph 4.1 or 4.1.2 (in the case of passenger operators) or paragraph 2.4.1 or 2.4.1.2 (in the case of freight operators) of Schedule 7 of each relevant train operator's track access contract;

Ltmeg means the total metered traction electricity consumption charged to all train operators in Geographic Area g and Relevant Year t which is derived from the following formula:

$$Ltmeg = \Sigma[CMEmgjt - RGBmgjt]$$

where:

Σ	means the summation across all relevant Metered Trains m for Relevant Year t for all train operators, as appropriate;
CMEmgjt	means the consumption of electricity (in kWh) by Metered Train m, as measured by the On-Train Meters or as otherwise determined in accordance with these CVL Traction Electricity Rules, in Geographic Area g, in tariff band j and in Relevant Year t; and
RGBmgjt	means the electricity (in kWh) generated by braking by Metered Train m, as measured by the On-Train Meters or as otherwise determined in accordance with these CVL Traction Electricity Rules, in Geographic Area g, in tariff band j and in Relevant Year t;

Ltmug means the total amounts in respect of the CVL IM Distribution System Loss Factor charged to all train operators in Geographic Area g and Relevant Year t which is derived from the following formula:

$$Ltmug = LtmugAC$$

where:

LtmugAC is derived from the following formula:

$$LtmugAC = \Sigma [CMEmgjtAC \bullet EFgjt] \bullet \lambda ACg$$

where:

Σ means the summation across all relevant Metered Trains m for Relevant Year t for all train operators, as appropriate;

CMEmgjtAC means the consumption of electricity (in kWh) from the AC System by Metered Trains m, as measured by the On-Train Meters or as otherwise determined in accordance with these CVL Traction Electricity Rules, in Geographic Area g, in tariff band j and in Relevant Year t;

EFgjt means an amount for traction current (in pence per kWh) consumed by railway vehicles operated by or on behalf of the train operator in Geographic Area g, in tariff band j and in Relevant Year t as agreed or determined pursuant to paragraph 19 of these CVL Traction Electricity Rules; and

λACg means the CVL IM Distribution System Loss Factor for the AC System in Geographic Area g

Ltmng means the total traction electricity consumption in Geographic Area g and in Relevant Year t by: (a) the CVL IM, and (b) all entities whose consumption is not modelled or metered in a track access contract subject to regulation by ORR in accordance with the Act; and

Cost Reconciliation

18.3A Prior to the calculation of $S2t\omega$, the CVL IM shall make any corrections for the charge for traction current (in pence per kWh) which, acting reasonably, it considers necessary (the “**Charge Correction Amount**”).

18.3 For each train operator ω , $S2t\omega$ is derived from the following formula:

$$S2t\omega = S2Et\omega \bullet S2Dt\omega$$

where:

$S2Et\omega$ is derived from the following formula:

$$S2Et\omega = ENt\omega \bullet ECt$$

where:

$ENt\omega$ means Train Operator Energy Costs payable by train operator ω in Relevant Year t ; and

ECt is a reconciliation factor, derived from the following formula:

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

where:

$CSEt$ means the total Energy Costs of traction electricity consumption payable by the CVL IM to its electricity suppliers in Relevant Year t ;

$CWEt$ shall be derived from the following formula:

$$CWE_t = TEC_t + ENtmn + ENRLOSSt$$

where:

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

$ENtmn$ means the summation across all Geographic Areas g , of the Energy Costs of the traction electricity consumption in Relevant Year t by (a) the CVL IM and (b) all entities whose consumption is not modelled or metered in a track access contract subject to regulation by ORR, which Energy Costs The CVL IM shall assess as accurately as possible after allocation of each $S1t_w$; and

$ENRLOSSt$ means the Energy Costs of the traction electricity consumption allocated to the CVL IM over and above its own consumption in the calculation of $S1t_w$, in paragraph 18.2 of these CVL Traction Electricity Rules, which the CVL IM shall assess as accurately as possible, across all Geographic Areas g in Relevant Year t .

For each train operator ω , $S2Dt_\omega$ is derived from the following formula:

$$S2Dt_\omega = \sum S2Dtg_\omega$$

where \sum means the summation across all Geographic Areas g ; and

where, for each Geographic Area g , $S2Dtg_\omega$ is derived from the following formula:

$$S2Dtg_\omega = Dt_{g\omega} \bullet DC_{tg}$$

where:

$Dt_{g\omega}$ means Train Operator Delivery Costs payable by train operator ω 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 the CVL IM 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:

$$CWD_{tg} = TED_{tg} + DENtmng + DNRLOSStg$$

where:

TED _t _g	means the summation of all Train Operator Delivery Costs across all train operators in Geographic Area g and Relevant Year t;
DEN _t _{mng}	<p>means the summation across all Geographic Areas g, of the Delivery Costs of the traction electricity consumption in Relevant Year t by:</p> <p>the CVL IM, and (b) all entities whose consumption is not modelled or metered in a track access contract subject to regulation by ORR, which Delivery Costs the CVL IM shall assess as accurately as possible after allocation of each S1_t_w; and</p>
DNRLOSS _t _g	means the amount payable by the CVL IM to its electricity suppliers in respect of the Delivery Costs of traction electricity consumption allocated to the CVL IM over and above its own consumption in the calculation of S1 _t _{gw} , in paragraph 18.2 of these CVL Traction Electricity Rules, in Geographic Area g in Relevant Year t.

Payment of reconciliation sums

18.4 The CVL IM shall, within 90 days after the end of Relevant Year t , provide to each train operator ω :

- (a) a statement of the amounts $S1_{t\omega}$ and $S2_{t\omega}$ and the Charge Correction Amount (in each case whether of a positive or negative amount);
- (b) such background workings as may reasonably be required for a proper understanding of the calculation; and
- (c) a certificate of the auditors of the CVL IM confirming the accuracy of the calculation.

18.5 Within 30 days after the date upon which the CVL IM shall have provided to the train operator the information referred to in paragraph 18.4, the amounts $S1_{t\omega}$ and $S2_{t\omega}$ and the Charge Correction Amount shall be invoiced for payment as provided under the relevant track access contract. If the aggregate of the amounts $S1_{t\omega}$ and $S2_{t\omega}$ and the Charge Correction Amount is positive, the invoice shall be issued by the CVL IM and payable by the train operator. If the aggregate of the amounts $S1_{t\omega}$ and $S2_{t\omega}$ and the Charge Correction Amount is negative, the CVL IM shall issue a credit note to the train operator.

19. Strategy for the procurement of traction electricity

19.1A TfW has developed a strategy for its procurement of electricity which shall apply from [1st April 2023] for so long as there is a single train operator using traction current on the CVL, during which time the CVL IM will have no role in the procurement or supply of traction electricity to that train operator (but will charge for use of the AC System by way of an electrification asset usage charge). These arrangements are contained in the relevant track access contract between the CVL IM and the relevant train operator. In the event that another train operator requires power for traction current, the CVL IM will procure traction electricity from a third party electricity provider and supply this to the train operators requiring traction electricity, for which they will pay the CVL IM the Traction Electricity Charge and Electrification Asset Usage Charge in accordance with the relevant track access contracts and these CVL Traction Electricity Rules.

19.1 At least three months prior to the start of each Relevant Year commencing on or after [1st April 2023], the CVL IM shall consult with the train operator regarding a strategy for the procurement of traction electricity for the train operator in respect of that Relevant Year, and:

- (a) if the CVL IM and the train operator agree on a strategy for the procurement of traction electricity, the CVL IM will procure traction electricity for the train operator in accordance with that agreed strategy; or
- (b) if the CVL IM and the train operator do not agree on a strategy for the procurement of traction electricity and the train operator has, during its consultation with the CVL IM under this paragraph 19, notified the CVL IM of the train operator's preferred strategy for the procurement of traction electricity and it is possible for the CVL IM, acting reasonably, to implement that strategy, the CVL IM will procure traction electricity for the train operator in accordance with the traction electricity procurement strategy so notified to the CVL IM by the train operator; or

- (c) if the CVL IM and the train operator do not agree on a strategy for the procurement of traction electricity and either (A) the train operator has not notified the CVL IM of the train operator's preferred strategy for the procurement of traction electricity during its consultation with the CVL IM in accordance with this paragraph 19, or (B) it is not possible for the CVL IM, acting reasonably, to implement the train operator's preferred strategy for the procurement of traction electricity as notified to the CVL IM during its consultation in accordance with this paragraph 19, the CVL IM will:
 - (i) acting reasonably, determine the procurement strategy for traction electricity for the train operator, having regard to whatever information, if any, the train operator has supplied to the CVL IM during its consultation under this paragraph 19; and
 - (ii) procure traction electricity for the train operator in accordance with that traction electricity procurement strategy.

20. Actual cost of traction electricity when there is more than one train operator using traction power

- 20.1 The CVL IM shall provide to the train operator within 30 days of the end of each Period in each Relevant Year, the actual cost of traction electricity consumed by railway vehicles operated by or on behalf of the train operator in the relevant Period against the budgeted amounts. The CVL IM shall also provide to the train operator a provisional six month Volume Reconciliation by Geographic Area g before 30 October of each Relevant Year and a provisional nine month Volume Reconciliation by Geographic Area g before 30 January of each Relevant Year.

21. Dispute Resolution

- 21.1 Save as expressly provided otherwise in these CVL Traction Electricity Rules, the dispute resolution processes set out in clause 13 of the relevant track access contract into which these CVL Traction Electricity Rules are incorporated shall apply in respect of any dispute arising out of or in relation to these CVL Traction Electricity Rules.

APPENDIX 1: TEMPLATE LOOK-UP TABLES [Note – relevant values to be determined.]

1. Journey Look-Up Tables

Table 1.1: Journey Look-Up Table for non-locomotive-hauled passenger journeys – Consumption Data

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
						Consumption rate (kWh/5 minute interval)				
Train Operator	Train Service Code	Specified Equipment	Geographic Area	Electricity Type (AC)	EMU Length	1 Unit	2x Unit	3x Unit	4x Unit	Other

Table 1.2: Journey Look-Up Table for non-locomotive-hauled passenger journeys – Regenerative Braking Data

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
						Consumption rate (kWh/5 minute interval)				
Train Operator	Train Service Code	Specified Equipment	Geographic Area	Electricity Type (AC)	EMU Length	1 Unit	2x Unit	3x Unit	4x Unit	Other

Table 1.3: Journey Look-Up Table for freight and locomotive-hauled passenger journeys – Consumption Data

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
					Consumption rate (kWh/5 minute interval/tonne)				
Train Operator	Train Service Code	locomotive class	Geographic Area	Electricity Type (AC)	1 Unit	2x Unit	3x Unit	4x Unit	Other

Table 1.4: Journey Look-Up Table for freight and locomotive-hauled passenger journeys – Regenerative Braking Data

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
					Consumption rate (kWh/5 minute interval/tonne)				
Train Operator	Train Service Code	locomotive class	Geographic Area (AC)	Electricity Type	1 Unit	2x Unit	3x Unit	4x Unit	Other

2. **Non-Journey Look-Up Table** *Note – relevant values to be determined.*

Table 2.1: Non-Journey Look-Up Table

1.	2.	3.	4.	5.
Train Operator	Specified Equipment	Geographic Area	Electricity Type (AC)	Consumption rate (kWh/5 minute interval)

APPENDIX 2: NOT USED

APPENDIX 3: CVL IM DISTRIBUTION SYSTEM LOSS FACTORS

[Note – relevant ESTAs to be determined.]

The table below sets out the CVL IM Distribution System Loss Factor for each traction electricity Geographic Area (g) for the AC System (λ AC) for the purposes of calculating the Traction Electricity Charge.

Electricity Supply Tariff Area (ESTA)	Traction electricity Geographic Area (g)	CVL IM Distribution System Loss Factor for the AC System (λ AC)
4	Core Valley Lines	TBA

APPENDIX 4: NOT USED

APPENDIX 5: THE GEOGRAPHIC AREAS

The table below describes the Geographic Area g for the purposes of Traction Electricity Charge calculations.

[Note – relevant ESTAs to be determined.]

Electricity Supply Tariff Area (ESTA)	Traction electricity Geographic Area / Tariff Zone	Description
TBA	Core Valley Lines	Core Valley Lines as defined in the CVL Network Code but excluding the routes below: <ul style="list-style-type: none">• Aberdare to Hirwaun• Ystrad Mynach to Cwmbargoed

Appendix 6 – Not Used