1. Traction current services

1.1 Calculating the energy consumption

The consumption recorded on the on-board meters is used as the basis for invoicing. The measured consumption is determined on the basis of the energy delivered to the pantograph reduced by the energy which was returned during regenerative braking.

Appendix E.3 contains additional information regarding the energy measurement system. This document is based on the European standards as determined in the LOC & PAS TSI and EN 50463: 2017. TSI LOC & PAS makes the addition of such an energy measurement system mandatory for every renewed and upgraded traction unit. If the railway undertaking itself is not a vehicle keeper, it shall ensure that the traction units it uses comply with European regulations. The railway undertaking should be aware that the infrastructure manager has no contractual or other relationship with the vehicle keeper. If a problem arises with an energy measurement system, its readout or data transmission, the railway undertaking remains the single point of contact for the infrastructure manager. The railway undertaking can then turn to the vehicle keeper.

For energy meters which do not comply with the accuracy defined in EN 50463 (see appendix E.3 of the network statement), a surcharge of 1% will be added to measured consumption.

Rolling stock equipped with energy meters can pass through various countries. Following validation (see point 2), the data can be assigned and exchanged with the network on which the consumption took place.

These meter values must be linked to the information on the trains, which means that the railway undertakings shall declare the composition of all trains to Infrabel (European Vehicle Numbers). This applies in particular to the used traction units. This information can be modified in *Fill In* or Train Traction up to 4 days after the departure of the train (D+4 at 16h). The data regarding the train path are also validated (see point 2). Measured consumption for parked trains or shunting will also be assigned.

The consumption for a train path without metering data or supposed incorrect metering data will be assessed on the basis of average specific consumption per category (passengers, goods, or high speed).

On average, a cargo train consumes far fewer kWh per tonne-km travelled, as its average speed is lower and a cargo train stops less frequently along its route. A high-speed train consumes more kWh on average per tonne-km travelled.

Infrabel uses the following formulae as from 1 June 2021:

***Passengers:* (36 + 0.80 * D1 + 0.8 * D2) Wh/tonne-km**

***High speed:* (42 + 0.80 * D1 + 1.0 * D2) Wh/tonne-km**

***Cargo:* 4 kWh/km + 12 Wh/tonne-km**

The number of degree-days D1 and D2 by day is based on the average temperature measured by the weather stations of Infrabel. For the calculation of D1, each degree below 16.5°C is counted as one degree-day. This means that a day with an average temperature of 6.5°C results in D1 equal to 10. For the calculation of D2, each degree above 20°C is counted as one degree-day.

An energetic reconciliation will take place at the end of each month. The total of metered and estimated consumption is compared with the measurement of the consumption injected in the overhead contact line. We consider 4% of transport losses (purchased by Infrabel). The difference will be distributed (via adjustment of the estimated consumptions). This method allocates an advantage of at least 3% to the metered consumptions and supports thus the installation of on-board meters.

If Infrabel discovers large differences between estimated and actual consumption, it has the right to change these estimation formulae during the validity period of this appendix in order to eliminate these differences.

1.2 Validation rules

The metering data from the energy meters on the rolling stock also contain GPS positions. Positions missing for up to 60 minutes are detected and automatically filled in by interpolation. They are treated as 'estimated' values. If the positions are missing for a longer time, the data are not exchanged and therefore no longer used in the allocation process.

The metering data are not used for allocation and the energy consumption is estimated if:

- more than two consecutive metering periods are missing;
- the consumption is greater than that permitted for the particular type of traction unit;
- the consumption when stationary is greater than that permitted for the particular type of traction unit;
- the GPS positions of the meter change without measuring consumption.

The data relating to the train path are also validated. In the event of the following errors, no energy consumption is assigned to the path if:

- the distance between two detection points is greater than 200 km;
- the speed is higher than permitted;
- an unknown traction unit is used.

No energy consumption is assigned to a part of a path with a mass of the train less than 50 tonnes or greater than 5000 tonnes.

For some errors, the metering data cannot be linked to a path, and the energy consumption is always estimated. This is the case if unpermitted combinations of traction units are indicated.

The validated positions of the path are compared with the metered positions from the energy meter. If these positions don’t match for a part of the train path, the energy consumption of the train for that part of the path is estimated.

If a train has both a traction unit with an energy meter and a traction unit without an energy meter, the metered consumption is extrapolated.

The energy consumption of a metered or partially metered train is always compared with the estimated consumption. The metered consumption should lie between 25% and 250% of the estimated consumption. Otherwise, the charge for the path is calculated based on its estimated consumption.

1.3 Rates for traction current supply

Infrabel considers two charging periods for the *Your Power* service:

Normal hours	Working days (excluding public holidays) from 07.00 to 22.00
Off-peak	Public holidays, Saturdays, Sundays Working days from 22.00 to 07.00

For the calendar year 2021:

75% of the price is fixed at the end of 2020. The remaining 25% will be determined on the basis of the average day ahead price of the current month.

The following formula is used:

- for normal hours: 59.60 EUR/MWh + 0.25 * Monthly Belix Base
- for off-peak: 38.25 EUR/MWh + 0.25 * Monthly Belix Base

The "Monthly Belix Base" is the average day-ahead price for Belgium for the month of delivery as listed on Epex Spot.

For the calendar year 2022:

75% of the price is fixed at the end of 2021. The remaining 25% will be determined on the basis of the average day-ahead price for the current month. At the end of 2021, Infrabel will publish an adjustment to this appendix containing the formula for determining the monthly price for normal hours and off-peak.

The unit price shall be increased by the cost of the green certificates and the markups and charges.

Infrabel has the right to change these rates during the validity period of this appendix in case of any change to the legal or regulating framework.

1.4 Rates for other transport and distribution services for traction current supply

Electricity also uses the transport and distribution networks of public network operators. The infrastructure manager pays the costs of using these networks. The infrastructure manager must pass on these costs to the end users, i.e. the applicants using the electricity, regardless of whether they purchase traction power from the infrastructure manager or from a supplier of their choice.

The unit price for other transport and distribution services for the period from 01/01/2021 is 20,5 EUR/MWh.

Infrabel has the right to change these rates during the validity period of this appendix in case of any change to the legal or regulating framework.

1.5 Billing arrangements

At the end of October in Year T-1, Infrabel creates a table showing the monthly payments in advance. These are based on utilisation by the railway undertakings for the period from September in Year T-2 to August in Year T-1 and on the unit prices for Year T. They are incorporated into the utilisation contract.

In the case of a new undertaking, the advances are calculated after consultation between the two parties on the basis of the expected consumption of this railway undertaking. Advances are only requested if the expected annual consumption is greater than 3 GWh.

The bill for these advance payments is drawn up on the first day of the month before the utilisation and must be paid within 30 days.

When the bills are made out, account must be taken of the advances already billed and paid. Bills are issued during the month after the use and are payable within 30 days.

Infrabel may charge interest on arrears in line with the legal interest rates on the amounts billed but unpaid within the deadlines set out above. The requisition and collection costs are payable by the user.

2. Services for exceptional transports

Each exceptional transport must be preceded by a study.

The railway infrastructure manager performs this study in various phases:

- A technical analysis of the load and/or the equipment;
- A study of the train path;
- An optional additional study if the load exceeds the nominal dimensions or the maximum allowed weight;
- Issuing of a provisional autorisation;
- Invoicing for this autorisation.

The amount to be invoiced is determined as follows:

Amount = unit price x multiplier x connections

2.1 Unit prices

The indexed unit prices (excluding VAT) for 2021 are:

Transport of exceptional height	€228,89
Transport of exceptional width	€228,89
Transport of exceptional length	€228,89
Other exceptional transports	€228,89
Transport of exceptional height + additional study	€279,75
Transport of exceptional width + additional study	€279,75
Transport of exceptional weight with instructions	€279,75
Transport of exceptional weight + additional study	€279,75

2.2 Period of validity of the authorisation

The period of validity for an authorisation for exceptional transport is at most, according to the choice of the applicant:

- 100 calendar days (in any case, the authorisation expires on 31 December of the calendar year) or

- in the case of an annual authorisation, a timetable (in all cases, the annual authorisation ends on the second Saturday of December).

In the second case, i.e. in the case of the annual authorisation, the multipliers in point 2.3 below apply.

2.3 Multipliers

For transports with a recurrent nature, the authorisation can be issued and renewed per timetable. As the study of these latter takes longer, the following multipliers are applied to the unit prices mentioned in point 2.1:

Annual renewal of authorisation	2
Annual authorisation study	3

2.4 Connections

For invoicing an exceptional transport, "connections" means:

- For inland transport: the number of arrival stations with the same departure station;
- For inland transport: the number of departure stations with the same arrival station;
- For international transport: the number of departure and arrival stations in Belgium multiplied by the number of border points.

The number of connections is multiplied by two if the request for special transport involves a return route.

2.5 Prices for the modification of an authorisation

A modification of an existing authorisation will be treated as a new request in the following cases. Consequently, the request will be invoiced in accordance with the applicable prices (see table unit prices above):

- Study of a new or additional train path;
- Study due to the addition of a departure station, an arrival station and/or a border point;
- Additional load / modification of the load;
- Modification of the wagon.

A modification due to unavailable infrastructure (works, disturbances …) will not be charged for.

Remark:

For requests for which the study will take longer than 1 day, an adapted offer will be made.

2.6 Indexing of unit prices

The unit prices applied by Infrabel are indexed annually on 1 January. This indexing corresponds to a weighting of the consumer price ‘health’ index (65%) and ‘service’ index (35%). The reference index is that of the month of November preceding the indexing

3. Technical inspection of rolling stock

YourTechnicalControl INFRABEL

3.1 Applicable rates

These rates apply to the technical testing of rolling stock 'beyond train paths'. The basic rates for personnel do not apply during the weekend or during the night. These unit prices exclude VAT.

Rates per hour - personnel	Value 1 January 2021
Industrial engineer	€95,84
Head of technical sector	€88,57
Deputy head of technical sector, technician mechanic	€82,91
Administrative employee	

Description of fixed-rate charges	Value 1 January 2021
Fixed administrative charge per dossier: issue of documents for (re-)testing, extension or in case of loss	€82,91
Type D, shunter with 2 axles and 1 driver's cab	€383,36
Type D, On Track Machine autonomous, max. 4 axles and 1 driver's cab	€479,18
Type G, On Track Machine towed: wagon max. 4 axles	€287,51
Type J, rail-road traction unit	€383,36
Type K&S, rail-road crane standard type, elevating platform, spraying/mowing tractor - including work authorisation	€331,64
Type R, heavy trolley	€248,73

Fixed-rate supplements	Value 1 January 2021
Per extra axle (from 2 or 4 axles)	€47,92
Second component of a dual rig (e.g. locomotive with tender, packing machine consisting of two units)	€143,75
Radio-controlled shunting	€95,84
Radio-controlled works (equipped with AWI, fall protection, …)	€48,30
Second driver's controls, extra man-basket for elevating platform	€71,87
Work authorisation On Track Machine crane car, rotation and/or uplift limits, emergency pump, gantry clearance, track loading	€143,75
(Auto)function test of the safety systems (memor, TBL 1+)	€47,92

Call-out costs	Value 1 January 2021
Domestic network: fixed call-out cost	€191,63
Abroad: number of kilometres in €/km + per hour worked (see rates per hour - personnel)	€0,37

Extra costs	Value 1 January 2021
Vehicle not ready for testing (still work to do, safety equipment to be supplemented, or to be positioned on another track)	Rates for personnel per hour of delay
Unfavourable conditions for testing (not above inspection pit, ...)	€269,32
Urgent testing (day of request – day of testing < 5 days)	€82,91
Overnight charge (travel, hotel, parking, meals, Infrabel day/night work pay)	On request
Test drives on-site for journeys off route	On request
Electromagnetic Compatibility and detection tests Compatibility study based on examination of the dossier and practical tests on test site I-AM)	On request

3.2 Indexing of unit prices

The unit prices applied by Infrabel are indexed annually on 1 January. This indexing corresponds to a weighting of the consumer price 'health' index (65%) and 'service' index (35%). The reference index is that of the month of November preceding the indexing