

INCENTIVE/PENALTY SCHEMES ON CHARGING LEVELS LINKED TO THE QUALITY OF SERVICE PROVIDED BY THE NATIONAL RAILWAY INFRASTRUCTURE MANAGER, AS SET OUT IN MEASURE 10.6 OF ANNEX A TO DECISION NO. 95/2023

Regulatory measures

Annex "A" to decision no.116/2025 of 24 July 2025

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Measure 1 Definitions

For the proper implementation of these regulatory measures, the following definitions shall apply, in addition to those set out in Article 3 of Legislative Decree No. 112/2015:

- 1.1 **Allowances:** additional minutes with respect to the theoretical running time of the train path, determined by both train performance and line characteristics, including recovery margins and any further allowances required to ensure path compatibility;
- 1.2 **Line:** group of main sections (macro-sections) defined by the railway infrastructure manager (hereinafter: IM) for commercial purposes;
- 1.3 **Macro-section:** group of line sections of the railway infrastructure defined by the IM for the purpose of assessing infrastructure utilisation levels;
- 1.4 **Regularity margins:** the set of technical, punctuality and maintenance allowances provided for in the technical timetable scenario to ensure timetable stability, explicitly disaggregated into their respective components;
- 1.5 **Operating Model:** a planning tool through which the IM defines, for each line and metropolitan node under its management, the reference operating scenario aimed at the effective and optimal use of the infrastructure. In accordance with the provisions of Measure 2 below, it is structured as follows:
 - *technical-industrial operating model:* defined by the IM and aimed at ensuring the effective and optimal use of the infrastructure from a technical and industrial perspective;
 - *technical-commercial operating model:* defined by the IM after consultation with existing and prospective capacity applicants, and aimed at reconciling the afore-mentioned technical-industrial objectives with the safeguarding of capacity utilisation levels resulting from current and prospective market demand.

Based on the comparative analysis between the technical-industrial and the technical-commercial operating models, in terms of performance objectives and expected service levels, the IM is tasked with planning appropriate pathways for progressive enhancement, efficiency improvement, and optimisation, in accordance with Measure 2.3 of these regulatory measures.

Measure 2 Operating models

- 2.1 The Infrastructure Manager prepares and update, at least every five years and prior to each charging period, a technical-industrial operating model for each line and metropolitan node under its management in order to define the reference operating scenario in order to ensure the effective and optimal use of the managed railway infrastructure. This model takes into account the network type, as defined by the IM pursuant to Measure 25 of Annex A to Decision No. 95/2023, and, in particular, the service level outlined in point 2 of that Measure, with specific regard to the technical and performance characteristics of the infrastructure, as well as the strategic role that each line of the given network type is expected to fulfil from industrial perspective, both within the network forming the national railway infrastructure as a whole and with respect to the capacity demand across the various market segments of railway transport services.

In the event of new regulatory and/or statutory requirements, amendments to the Programme Contract, or other unforeseen industrial factors which are therefore not attributable to the responsibility of the IM, but which the IM considers likely to require extraordinary intra-period updates to the technical-industrial operating model defined prior to the relevant charging period, the IM is required to prepare such updates and submit them to the Authority for the appropriate evaluations.

In preparing the aforementioned technical-industrial operating model, the IM takes into account the need to comply with: (i) the quantity and punctuality standards of the railway transport services planned for operation; (ii) adequate regularity margins, ensuring that all their components are explicitly defined for the different railway

services expected to be operated; (iii) the rules for the use of the managed network, as set out in the Network Statement; (iv) the utilisation of rolling stock and infrastructure aimed at achieving the maximum permissible performance; and (v) the foreseeable performance improvements of rolling stock and infrastructure.

This model must specify the types and proportions of transport service volumes considered functional, including from a transport planning perspective, to ensure the effective and optimal use of the railway infrastructure, in relation to its characteristics. It should be based at least on the following technical parameters identifying the performance characteristics of the infrastructure and the rolling stock that may operate on it: maximum speed range, maximum trailing load in the different permissible traction configurations, maximum trainset length, maximum permissible loading gauge, and maximum axle load of rolling stock in the consist.

In pursuing the maximisation of the social benefit generated by transport services using the national railway infrastructure, the technical-industrial operating model must be designed to ensure efficient and optimal use of the infrastructure by:

- i. appropriately limiting and qualifying the planned path allowances;
- ii. identifying an adequate balance between the number of trains that can be accommodated on each section of the network and the level of speed variability deemed acceptable by the IM in relation to capacity demand;
- iii. simultaneously ensuring the achievement of high target service levels.

The IM therefore defines, using appropriate methodologies and simulation tools, the aforementioned target service levels by preparing and measuring specific indicators and related targets that qualify the technical-industrial operating model, taking into account the indicators and corresponding metrics specified in the following measures, as far as they are applicable to the operating models.

- 2.2 Following the publication of the technical-industrial operating model, the IM shall, with a frequency at least equal to that required for the periodic update of the said model, conduct a consultation with existing and potential capacity applicants, with the aim of reconciling: (i) the need to ensure the effective and optimal use of the infrastructure from a technical-industrial perspective and (ii) the safeguarding of its utilisation levels as driven by demand, including prospective demand expressed by the market, while preserving adequate contestability of access to the infrastructure by applicants. The outcome shall be a technical-commercial operating model that balances the requirements of technical effectiveness and optimisation of the managed network operation with the satisfaction of both current and prospective market demand for infrastructure capacity.

The draft technical-commercial operating model submitted for consultation by the IM already takes into account the information on the annual and multiannual planning of transport services, insofar as made available to the IM by capacity applicants and reconciled by the IM as a result of any prior coordination activities.

The definition of this technical-commercial operating model makes it possible to establish, accordingly, the target values for the performance indicators set out in this document, so that their achievement, and the annual comparison with the simulated targets relating to the technical-industrial operating model, supports decisions on the periodic update of the technical-commercial operating model and of the related performance targets. This, in turn, progressively steers capacity demand towards an increasingly efficient and optimal use of the infrastructure, thereby fostering the gradual improvement of the use of the national railway infrastructure and its further development.

- 2.3 Based on the comparative analysis between the technical-industrial and technical-commercial operating models, in terms of performance objectives and expected service levels, the IM is required to plan appropriate pathways for progressive strengthening, efficiency gains and optimisation, within the framework of the preparation of the Business Plan, the Programme Contract – Services section, and the Programme Contract – Investment section. The technical-industrial and technical-commercial operating models defined ex ante duly take into account the quality improvements arising from specific public funding.

The aforementioned comparative analysis shall be made available to operators, also for the purpose of their participation in the Technical Consultation Forum for the definition of infrastructural actions aimed at pursuing the above-mentioned pathways. The IM is also required to verify, on a half-yearly basis, the progress of these pathways for strengthening, efficiency improvements and optimisation, reporting the outcomes to the Authority and providing justifications for any delays or deviations from the set objectives. Should the Authority ascertain unjustified deviations from the IM's planned activities, it may adopt prescriptive measures, including the potential implementation of an extraordinary update of one or both of the aforementioned models.

- 2.4 The operating models referred to in this measure, developed and updated by the IM for each managed line and metropolitan node, must feature a level of detail sufficient to capture the temporal elements necessary for defining indicators related to the operating model. This includes detailed specifications of individual macro-sections where the specific technological and performance characteristics of the infrastructure and/or the requirements of different market segments make it necessary. Additionally, the models shall appropriately consider, within their overall architecture, potential synergies and/or any form of integration and optimisation that could be implemented with lines that, even if only partially, are substitutable and capable of serving similar origin-destination relations.

Furthermore, these models shall encompass at least the following different types of rail traffic to be considered in train operations, also in relation to prevailing stopping patterns:

1. freight rail transport services, subdivided into the following basic categories: national and international;
2. passenger rail transport services, subdivided into the following basic categories: high-speed, long-distance international, long-distance national, fast regional, and regional.

These categories shall be defined taking into account: (i) the seasonality of the different operational periods throughout the year, and (ii) for each identified season, the different typical hours of operation, specifically including at least one typical hour in the morning, one in the afternoon, one at night, and at least one peak hour of the daily operation.

- 2.5 The operating models referred to in this measure also provide evidence of:
- i. the differing levels of speed variability associated with the heterogeneity of the various types of traffic considered in the models, through the calculation of a specific indicator defined according to the following metric, which accounts for the varying occupancy times of the major section, including both travel times along the sections and any dwell times, for each pair of trains routed in sequence:

$$E_s = \frac{1}{n} * \sum_{i=1}^n | \Delta (\text{pure running time} + \text{dwell times})_i |$$

E_s = level of speed variability for the macro-section "s";

$\Delta (\text{pure running time} + \text{dwell times})_i$ = difference in occupancy time of the macro-section between the trains of the i-th pair of trains routed in sequence;

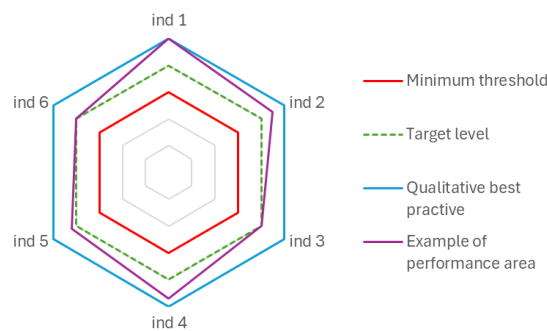
n = number (n) of pairs of trains routed in sequence on the macro-section "s".

- ii. the effects of their differentiation in terms of performance standards of trains serving the different market segments, e.g. in relation to frequency, commercial speed, and travel times.
- 2.6 For each origin–destination relation considered, in both the technical-industrial and technical-commercial operating models, the above-mentioned rail transport services shall be grouped and represented using specific identification codes, also reflecting the different performance characteristics of the rolling stock. For passenger transport services, the infrastructure manager shall take into account, in particular, maximum speed and acceleration performance. For freight transport services, consideration shall also be given to maximum hauled mass, maximum train length, axle load, and the maximum permissible train profile. For each identification code corresponding to a transport service type, the hourly frequency shall also be specified.

- 2.7 To provide evidence of train sequencing and in any case when capacity is limited or saturated, the technical-industrial and technical-commercial operating models shall also be developed in the form of a train diagram, highlighting the distinct performance features of the rolling stock considered.
- 2.8 In the initial phase, the operating models covered by this measure shall apply to HS/HC lines and to any other lines containing at least one macro-section with a daily commercial capacity utilisation rate of 40% or higher.

Measure 3 Regulation of incentive/penalty schemes

- 3.1 The incentive/penalty schemes applied to charging levels, linked to the quality of service provided by the national railway infrastructure manager and referred to in Measure 10.6 of Annex A to Decision No. 95/2023, are based on a panel of indicators defined in accordance with the relevant measures of this decision.
- 3.2 Each incentive/penalty scheme is calculated as a weighted average of the relevant j -th indicators.



- 3.3 With reference to the previous figure, for each j -th indicator (Iq_j), three distinct quality levels are defined (hereinafter, quality thresholds):

- minimum threshold ($Iq_{\text{Minimum threshold}, j}$): the threshold at which the incentive/penalty scheme assumes its minimum value.

This threshold is defined on the basis of the minimum quality standards established for the j -th indicator and aims to discourage the IM from delivering performance levels below the minimum standards required and acceptable to users, resulting in an economic impact in terms of a reduction of the applicable charging levels;

- target level ($Iq_{\text{target}, j}$): the threshold that identifies the reference point at which the effects of the incentive/penalty scheme are neutralised, producing no economic impact on the infrastructure manager or on the respective users.

This threshold must be defined on the basis of the quality standards required for the j -th indicator, taking into account the annual historical values recorded for the indicator (over the last ten years, where available). It should take into account the impact of any significant extraordinary events occurring during the observation period, considering values falling at least beyond the 80th percentile of that distribution;

- qualitative *best practice* ($Iq_{\text{Best practice}, j}$): the threshold that identifies the maximum reference point at which the variation of the parameter reaches its maximum value.

This threshold is defined on the basis of the highest quality standards for the j -th indicator as identified across the IM's regional units (i.e., the highest absolute historical values) and, where possible, within the international railway market, and is determined with reference to those maximum identifiable values, taking into account factors that have an impact on the specific indicator.

The threshold thus aims at achieving performance levels that represent optimal benchmarks for the railway sector, for the attainment of which the IM is rewarded with an additional bonus, over and above the charge adjustment determined by the price cap mechanism.

Quality thresholds are established ex ante for each regulatory period, in line with the above principles, without prejudice to the cases of emergency situations – as resulting from specific measures adopted to that effect by the competent authorities – affecting the network sections managed by the IM in the definition of these thresholds.

The quality thresholds established ex ante duly take into account quality improvements resulting from specific public funding.

Measure 4 Annual incentives/penalties on average unit charges linked to service quality

4.1 With reference to the time trend of operating costs pursuant to Measure 10.2 of Annex A to Decision No. 95/2023, the variable ε_t corresponds to the incentive/penalty parameter on average unit charges, which reflects the performance objectives indicated below. This parameter may assume either a positive or a negative value, to be applied in year (t).

4.2 The variation in operating costs associated with the variable ε_t shall fall within the following minimum and maximum limits:

$$\begin{aligned} \min(\varepsilon_t) &= -0,02 \\ \max(\varepsilon_t) &= +0,01 \end{aligned}$$

4.3 The Authority annually shall verify the achievement of the target indicators during the regulatory period, using the following approach:

- each performance dimension is assigned a weight $P\varepsilon_j$, with $\sum_j P\varepsilon_j=1$;
- if none of the dimensions Iq_j individually exceeds the minimum threshold, the IM shall be penalised through a corrective factor based on the application of the maximum limit, equal to 2% of operating costs;
- if all the dimensions Iq_j exceed the minimum threshold but, at the same time, not all exceed the 'Target Level', the following inequality applies for each j-th indicator:

$$-0,02 \leq \varepsilon_{t,j} \leq 0$$

where the value of $\varepsilon_{t,j}$ is determined according to the positioning of the value of Iq_j between $Iq_{\text{minimum threshold}, j}$ and $Iq_{\text{target}, j}$, by means of linear interpolation;

- if all the dimensions Iq_j exceed the target level, the following inequality applies for each j-th indicator:

$$0 \leq \varepsilon_{t,j} \leq +0,01$$

where the value of $\varepsilon_{t,j}$ is determined according to the positioning of the value of Iq_j between $Iq_{\text{target}, j}$ and $Iq_{\text{Best practice}, j}$, by means of linear interpolation.

4.4 For the total variation related to the quality of the synthetic indicator, the following equation applies:

$$\varepsilon_t = \sum_{j=1}^{no\ indicators} P_{q,j} \cdot \varepsilon_{t,j}$$

The monitoring system employs the j-th indicators together with their respective weights and units of measurement, as reported in the table below. In the evaluation of those indicators listed in the same table as "to be minimised", the IM shall apply the necessary sign adjustments.

No.	Indicator	Weight	Unit of measure
1	Ratio between actual commercial speed and theoretical free-network commercial speed of trains (to be maximised)	11.11%	%
2	Average delay accumulated by trains running on each section of the network, attributable to the IM under the Performance Regime (to be minimised)	11.11%	Minutes per section
3	Number of trains that accumulated delay on each section of the network, attributable to the IM under the Performance Regime (to be minimised)	11.11%	Number per section
4	Average time required for the recovery of all delays on each section of the network (to be minimised)	11.11%	Minutes per section
5	Ratio between the number of train paths cancelled by the IM, even partially, under operational management, on sections of the network affected by delays, and the number of scheduled train paths (to be minimised)	11.11%	%
6	Annual hours of planned unavailability of tracks, per km of network (to be minimised)	11.11%	annual hours per track kilometre
7	Deviation between the annual hours of planned unavailability of tracks and actual unavailability hours per kilometre of network (to be minimised)	11.11%	%
8	Extension of the network compatible with PC80 gauge, 740 m module, and D4 axle load (to be maximised)	11.11%	km
9	Perceived overall quality of services included in the Minimum Access Package (MAP) provided at stations by the IM to RUs and passengers (to be maximised)	11.11%	%

* The 'theoretical free-network commercial speed' is calculated as the ratio between the distance travelled and the sum of pure running time plus dwell times.

4.5 The IM shall initiate, within the deadline specified in Measure 4.3, point 1, of Annex A to Decision no. 95/2023, a consultation with its direct and indirect users, including potential ones, on the proposed methods for aggregating base data, on the calculation of each individual indicator, on the related calculation metrics, and on the proposed quality thresholds linked to the ϵ_t parameter, for the period from the second (T_2) to the fifth (T_5) year of the regulatory period and for the first year of the subsequent regulatory period. The proposals shall be justified in an explanatory report, in line with the technical-commercial operating models referred to in Measure 2 and with the contents of the Commercial Plan and the Programme Contract. By the 30th of September of the same year, the IM shall publish and submit to the Authority an explanatory report on the outcomes of the consultation, attaching the individual contributions received, and on the conclusions reached regarding the determination of the methods for aggregating base data, the calculation of each individual indicator, and the related thresholds. These thresholds shall be published in the draft Network Statement submitted for consultation for the second year of the five-year regulatory period (T_2).

The Authority provides an opinion on the methods for aggregating base data, on the calculation of each individual indicator, on the related calculation metrics, and on the thresholds proposed by the IM, within the deadline referred to in Measure 4.3, point 5, of Annex A to Decision no. 95/2023, also taking into account the outcomes of the aforementioned consultation. Consequently, the IM updates the NS for the second year (T_2) of the five-year regulatory period by the start of the timetable of the same year.

- 4.6 Within the framework of the annual update of the charging levels, with particular reference to the parameters for determining the level of operating costs, as specified in point 1 (d), of Measure 10.5 of Annex A to Decision no. 95/2023, the IM submits to the Authority the results of the monitoring of the values achieved for the identified indicators, the related data collection methodologies, and the resulting value of the parameter ϵ_t . For the purpose of the Authority's monitoring activities, the values of the indicators are in any case also provided in a disaggregated form, by macro-section for indicators 1 to 7, and by station for indicator 9.

Within the same annual update, in relation to the actual entry into force of new regulatory or statutory provisions, or to amendments to the Programme Contract that the IM considers may entail changes to the values identified for the quality thresholds start of the regulatory period, the IM submits such changes for consultation with its direct and indirect users, including potential ones, and proposes them to the Authority for evaluation within its remit.

For the first application, the IM shall launch, by 15 December 2025, a consultation with its direct and indirect users, including potential ones, on the proposed methods for aggregation of base data, on the calculation of each individual indicator, and on the proposed quality thresholds linked to the parameter ϵ_t , for the period 2027-2029 and for the first year of the subsequent regulatory period, providing justification for the proposals in an explanatory report, in line with the technical-commercial operating models referred to in Measure 1 and with the contents of the Business Plan and the Programme Contract. By 16 February 2026, the IM shall publish and submit to the Authority an explanatory report on the outcomes of the consultation, attaching the individual contributions received, and the conclusions reached by the IM regarding the determination of the methods for aggregating base data, the calculation of each indicator, and the related thresholds.

The Authority shall deliver its opinion on the adopted operating models, on the methods for aggregating base data, on the calculation of each individual indicator, and on the thresholds proposed by the IM, also taking into account the outcomes of the consultation, by 15 April 2026. The IM shall then, by 15 May 2026, publish the resulting extraordinary update of the NS 2027.

- 4.7 For the year 2027 only, in order to allow the market to gain a full understanding of the practical functioning of the mechanism set out in this measure, the IM shall calculate the value of parameter ϵ_t and communicate it to the Authority and to users but shall not apply it in the 2027 update of the charging levels.

In 2027 and 2028:

- where the data required for the evaluation of all the indicators referred to in this measure are not yet available, the IM shall carry out the evaluation on the basis of the indicators for which data are available;
- where is not possible to determine the value of parameter ϵ_t for the entire year under measurement, the IM shall perform a pro-rata evaluation, taking into account only the months for which data are available.

- 4.8 Following the first application, by 31 January of the year preceding the deadline referred to in Measure 4.3, point 1, of Annex A to Decision no. 95/2023, the IM shall publish a draft technical-industrial operating model and launch a consultation on the first draft of the technical-commercial operating model, referred to in Measure 2.2 of these regulatory measures. By 31 March of the same year, the IM shall publish and submit to the Authority an explanatory report on the outcomes of the consultation, attaching the individual contributions received, and on the conclusions reached by the IM concerning the definition of the final draft of the technical-commercial operating model. The Authority shall deliver its opinion on the operating models proposed by the IM, also taking into account the outcomes of the consultation, by 31 May of the same year. The IM shall then, by 30 June of the same year, publish the operating models in the NS for the second year (T_2) of the five-year regulatory period.

Measure 5 Intra-period adjustments to the C1 and C5 components of the charge, as well as to the maximum variability ranges of the average unit charges.

5.1 In the fourth year (T4) of the five-year regulatory period, the values of the C1 and C5 components (referred to in Measures 30.2 and 30.6 of Annex A to Decision no. 95/2023), determined at the beginning of the same period, shall be recalculated, as well as the maximum variability ranges of the average unit charges (referred to in Measure 31.2 of Annex A to Decision no. 95/2023), taking into account the provisions of the technical-commercial operating models of the managed lines referred to in Measure 2, and any subsequent updates thereof.

5.2 Point 2 of Measure 30.2 of Annex A to Decision no. 95/2023 is replaced by the following:

"In order to reduce speed variability effects and ensure optimal use of infrastructure capacity, for infrastructure sections that are capacity-constrained or saturated, as defined in the Network Statement, and during peak usage periods, the IM shall apply a mandatory supplementary charging component based on the opportunity cost associated with the higher consumption of capacity on rail infrastructure section by trains operating at a commercial speed (associated with a 'section occupancy time': TD) different from the vocational, current, and prospective speed, identified ex ante by the IM for the same section with reference to the regulatory period (associated with a 'section occupancy time': TV). The number of lost paths shall be calculated on the basis of the ratio between the respective section occupancy times (TD/TV), which are equal to the sum of the pure running time and the dwell times. The opportunity cost of each lost vocational path is equal to the product of component B of the average unit charge associated with the 'average' kilometer length of the routes of the trains running on the section at the vocational speed. This charge component shall be applied, as a priority, to network type classes 1 and 2 defined in paragraph 4 of Measure 25, and to the additional sections identified by the IM, taking into account the operating model of the line, the existence of alternative routes compatible with the mobility needs to be met, as well as the outcomes of the trial referred to in point 5, without prejudice, in any case, to the Authority's assessments."

The C1 component shall be recalculated by multiplying the value determined in accordance with the previous measure by $(1+Q_{C1})$, where Q_{C1} corresponds to an increase of +20% at the minimum threshold ($Iq_{\text{Minimum threshold, } j}$) and to a decrease of -10% at the qualitative best practice ($Iq_{\text{Best practice, } j}$).

5.3 The Authority shall verify annually the achievement of the target indicators during the regulatory period, applying the following approach:

- each performance dimension is assigned a weight $PQ_{C1,j}$, with $\sum_j PQ_{C1,j}=1$;
- if none of the Iq_j dimensions are individually above the minimum threshold, an adjustment corresponding to the maximum limit, i.e. an increase of 20%, shall be applied to the component C1;
- if all the Iq_j dimensions are above the minimum threshold but not all of them are above the 'Target Level', the following inequality shall apply for each j-th indicator:

$$0 \leq Q_{C1,t,j} \leq +0.2$$

where the value of $Q_{C1,t,j}$ is determined on the basis of the positioning of the Iq_j value between the values $Iq_{\text{minimum threshold, } j}$ and $Iq_{\text{target, } j}$, through linear interpolation;

- if all Iq_j dimensions are above the target level, the following inequality shall apply to each j-th indicator:

$$-0.10 \leq Q_{C1,t,j} \leq 0$$

where the value of $Q_{C1,t,j}$ is determined based on the positioning of the Iq_j value between the values $Iq_{\text{target, } j}$ and $Iq_{\text{Best practice, } j}$, through linear interpolation.

5.4 For the annual value related to the quality of the composite indicator, the following equation shall apply:

$$Q_{C1,t} = \sum_{j=1}^{no\ indicators} P_{QC1,j} \cdot Q_{C1,t,j}$$

The multi-year value of Q_{C1} shall be given by the arithmetic mean of the $Q_{C1,t}$ values over the different years t .

The monitoring system identifies the j -th indicators listed in the following table.

No.	Indicator	Weight	Unit of measure
10	Percentage of saturated hours per section subject to the application of the C1 component (to be minimized)	50%	%
11	Number of lost train paths per year [^] on the sections to which the same C1 component is applied (to be minimized)	50%	Number per year

** The line saturation level is calculated using best international practices, such as the so-called compaction method.

[^] The number of lost train paths is calculated according to the criteria defined in measure 5.2.

5.5 Point 2 (a) (i), of Measure 30.6 of Annex A to Decision No. 95/2023 is replaced by the following:

“it shall provide for a reasonable and proportionate reduction of the charge for the requesting party, quantified by the IM on the basis of the opportunity cost, estimating both the additional costs imposed on railway undertakings and the loss of revenue resulting from the loss of end users, related to the difference between:

- *the running time calculated by the IM for each train, based on the technical characteristics of the rolling stock, assuming a network entirely free from constraints and disruptions caused by the circulation of other trains, therefore referring solely to sum of pure running time and dwell times;*
- *the running time resulting, for each train, from the service scheduling carried out by the IM during the construction of the timetable and the allocation of infrastructure capacity.”*

5.6 The C5 component shall be recalculated, separately for each market segment, by multiplying the value determined according to the previous measure by $(1+Q_{C5})$, where Q_{C5} corresponds to an increase of 20% at the minimum threshold ($Iq_{\text{minimum threshold}}$) and to a decrease of 10% at the qualitative best practice ($Iq_{\text{Best practice}}$).

5.7 The Authority shall verify annually the achievement of the target indicator during the regulatory period, applying the following approach:

- if the Iq dimension is not above the minimum threshold, the IM shall be penalized through an adjustment corresponding to the maximum limit, i.e. an increase of 20%;
- if the Iq dimension is above the minimum threshold but not above the “Target Level,” the following inequality shall apply:

$$0 \leq Q_{C5,t} \leq +0.2$$

where the value of $Q_{C5,t}$ is determined on the basis of the positioning of the Iq value between the values $Iq_{\text{Minimum threshold}}$ and Iq_{target} through linear interpolation;

- if the Iq dimension is above the target level, the following inequality shall apply:

$$-0,1 \leq Q_{C5,t} \leq 0$$

where the value of $Q_{C5,t}$ is determined on the basis of the positioning of the Iq value between the values Iq_{target} and $Iq_{\text{Best practice}}$ through linear interpolation.

- 5.8 The multi-year value of Q_{C5} shall be calculated as the arithmetic mean of the $Q_{C5,t}$ values over the different years t .

The monitoring system identifies the indicator listed in the following table.

No.	Indicator	Weight	Unit of measure
1	Ratio between actual commercial speed and theoretical free-network commercial speed* of trains (to be maximized)	100%	%

* The 'theoretical free-network commercial speed' is calculated as the ratio between the distance travelled and the sum of the pure running time plus the dwell times.

- 5.9 The maximum variability ranges of the average unit charges, referred to in Measure 31.2 of Annex A to Decision No. 95/2023, shall be recalculated separately for the market segments to which they apply, by multiplying the value of the derogations referred to in point 2 of the same measure, determined at the beginning of the same regulatory period, by $(1+Q_{CVM})$, where Q_{CVM} corresponds to a decrease of -20% at the minimum threshold ($lq_{\text{Minimum threshold}, j}$) and to an increase of +10% at the qualitative best practice ($lq_{\text{Best practice}, j}$).
- 5.10 The Authority shall verify annually the achievement of the target indicators during the regulatory period, applying the following approach:

- each performance dimension is assigned a weight $PQ_{CVM,j}$, with $\sum_j PQ_{CVM,j}=1$;
- if none of the lq_j dimensions are individually above the minimum threshold, the IM shall be penalised through an adjustment corresponding to the maximum limit, i.e. an increase of -20%;
- if all the lq_j dimensions are above the minimum threshold but not all of them are above the 'Target Level', the following inequality shall apply for each j -th indicator:

$$-0.2 \leq Q_{CVM,t,j} \leq 0$$

where the value of $Q_{CVM,t,j}$ is determined on the basis of the positioning of the lq_j value between the values $lq_{\text{minimum threshold}, j}$ and $lq_{\text{target}, j}$, through linear interpolation;

- if all the lq_j dimensions are above the target level, the following inequality shall apply for each j -th indicator:

$$0 \leq Q_{CVM,t,j} \leq +0.1$$

where the value of $Q_{CVM,t,j}$ is determined on the basis of the positioning of the lq_j value between the values $lq_{\text{target}, j}$ and $lq_{\text{Best practice}, j}$, through linear interpolation.

- 5.11 For the annual value related to the quality of the composite indicator, the following equation shall apply:

$$Q_{CVM,t} = \sum_{j=1}^{\text{no indicators}} PQ_{CVM,j} \cdot Q_{CVM,t,j}$$

The multi-year Q_{CVM} value shall be calculated as the arithmetic mean of the $Q_{C5,t}$ values over the different years t .

The monitoring system identifies the j -th indicators listed in the following table. For the evaluation of the indicators listed in the same table and marked as "to be minimized", the IM shall apply the necessary sign adjustments.

No.	Indicator	Weight	Unit of measure
1	Ratio between actual average commercial speed and theoretical free-network* commercial speed of trains (to be maximized)	50%	%
2	Average accumulated delay of trains in transit on each network section, attributed to the IM under the Performance Regime. (to be minimised)	50%	Minutes per section

* The 'theoretical free-network commercial speed' is calculated as the ratio between the distance travelled and the sum of the pure running time plus the dwell times.

- 5.12 Within the deadline set out in Measure 4.3, point 1, of Annex A to Decision no. 95/2023, the IM shall launch a consultation with its direct and indirect users, including potential ones, on the proposed methods for aggregating base data, on the calculation of each individual indicator, on the related calculation metrics, and on the proposed quality thresholds associated with components C1 and C5 of the charge, as well as with the maximum variability ranges of the average unit charges, for the period between the second (T_2) and the fifth (T_5) year of the regulatory period and for the first year of the subsequent regulatory period. The IM shall justify these proposals in an explanatory report, consistent with the technical-commercial operating models referred to in Measure 2 and with the contents of the Business Plan and the Programme Contract. By 30 September of the same year, the IM shall publish and submit to the Authority an explanatory report on the outcomes of the consultation, attaching the individual contributions received, and on the conclusions reached concerning the determination of the methods for aggregating base data, the calculation of each indicator, and the relevant thresholds. These thresholds shall be published in the consultation draft of the Network Statement relating to the second year of the five-year regulatory period (T_2).

The Authority shall issue its opinion on the methods for aggregating base data, on the calculation of each indicator, on the related calculation metrics, and on the thresholds proposed by the IM, within the deadline set out in Measure 4.3, point 5, of Annex A to Decision no. 95/2023, also taking into account the outcomes of the aforementioned consultation. Consequently, the IM shall update, by the start of the timetable of the same year, the NS relating to the second year (T_2) of the five-year regulatory period.

- 5.13 As part of the annual update of tariff levels, the IM reports to the Authority on the results of monitoring the values achieved for the indicators identified by this measure, including the associated data collection methodologies. For the purposes of the Authority's monitoring activities, the indicator values are also provided in a disaggregated format, broken down by macro-section.

As part of the annual update of tariff levels for the fourth year (T_4) of the five-year regulatory period, the IM submits to the Authority — alongside the results of monitoring the performance indicators identified and their associated data collection methodologies — the corresponding values for the C1 and C5 components of the charge, as well as the maximum variability ranges for the average unit charges.

In the same annual update, in response to the actual implementation of new regulatory or legislative provisions, or changes to the Programme Contract that the IM considers may impact the values established for the quality thresholds at the start of the regulatory period, the IM consults its direct, indirect, and potential users on these proposed changes and submits them to the Authority for review and approval.

- 5.14 As part of the annual update of charging tariff levels, the IM shall present to the Authority the outcomes of the monitoring of the values achieved for the indicators identified under this measure, together with the related measurement methodologies. For the purposes of the monitoring activities falling within the Authority's remit, the values of the indicators shall in any case also be provided in disaggregated form, by macro-section.

As part of the annual update of charging levels for the fourth year (T_4) of the five-year regulatory period, the IM shall present to the Authority — in addition to the outcomes of the monitoring of the values achieved for the identified indicators and the related measurement methodologies — also the resulting value of components C1 and C5 of the charge, as well as of the maximum variability ranges of the average unit charges.

Within the framework of the same annual update, in relation to the actual entry into force of new legislative and regulatory provisions, or of amendments to the Programme Contract that the IM considers likely to entail changes to the quality thresholds determined at the beginning of the regulatory period, the IM shall launch a consultation on such changes with its direct and indirect users, including potential ones, and submit them to the Authority for the evaluation under its remit.

- 5.15 For the first application, by 15 December 2025, the IM shall launch a consultation with its direct and indirect users, including potential ones, on the proposed methods for aggregating base data, on the calculation of each individual indicator, and on the proposed quality thresholds associated with components C1 and C5 of the charge, as well as with the maximum variability ranges of the average unit charges, for the period between 2027 and 2029 and for the first year of the subsequent regulatory period. The IM shall justify these proposals in an explanatory report, consistent with the technical-commercial operating models referred to in Measure 2 and with the contents of the Business Plan and the Programme Contract. By 16 February 2026, the IM shall publish and submit to the Authority a descriptive report on the outcomes of the consultation, attaching the individual contributions received, and on the conclusions reached concerning the determination of the relevant thresholds.
- 5.16 For the first application, by 15 December 2025, the IM shall launch a consultation with its direct and indirect users, including potential ones, on the proposed methods for aggregating base data, on the calculation of each indicator, and on the proposed quality thresholds associated with components C1 and C5 of the charge, as well as with the maximum variability ranges of the average unit charges, for the period between 2027 and 2029 and for the first year of the subsequent regulatory period. The IM shall justify these proposals in an explanatory report, consistent with the technical-commercial operating models referred to in Measure 2 and with the contents of the Business Plan and the Programme Contract. By 16 February 2026, the IM shall publish and submit to the Authority an explanatory report on the outcomes of the consultation, attaching the contributions received, and on the conclusions reached concerning the determination of the relevant thresholds.

By 15 April 2026, the Authority shall issue its opinion on the operating models adopted, on the methods for aggregating base data, on the calculation of each indicator and on the thresholds proposed by the IM, also taking into account the outcomes of the consultation. The IM shall then, by 15 May 2026, publish the corresponding extraordinary update of the NS 2027.

- 5.17 In 2027, if it is not possible to determine the value of the parameters $Q_{C1,t}$, $Q_{C5,t}$ e $Q_{CVM,t}$ for the entire year subject to measurement, the IM shall carry out a pro-rata assessment considering only the months for which they are available.

Measure 6 Economic equilibrium of the infrastructure manager

- 6.1 Where the correct implementation of the measures set out in this document generates penalties of such an amount that, when combined with the economic effects of Measures 10.5, point 6, and 33 of Annex A to Decision No. 95/2023, it results in a loss of the economic equilibrium for the IM during the regulatory period, for reasons not attributable to the responsibility of the IM itself, the matter shall be subject to evaluation by the Authority for the purpose of possible recovery in the subsequent regulatory period, through a specific notional item.

Measure 7 Reporting obligations of the IM to the Authority

- 7.1 All indicators covered by these regulatory measures, including those that may in the future be developed by the IM to implement individual measures, shall be submitted to the Authority for its assessment as part of the annual update of charging levels, with the highest level of disaggregation (e.g., macro-section, demand segment, etc.). Similarly, the metrics and analytical methodologies applied for the calculation of the related indicators, thresholds, and targets must be transmitted to the Authority.

APPENDIXES

Appendix 1 – Accounting templates for the national railway infrastructure manager

[See attached excel sheet]