TITLE	
PLATFORM HEIGHT	
ORIGINATOR	**SUBJECT RELATED TO**
SG INF / ARSENAL RACE	TSI INF HS (2008/217/EC), TSI PRM (2008/164/EC) and TSI INF 1299/2014

DESCRIPTION AND BACKGROUND EXPLANATION

Notes to Issue 02

The Issue 02 takes the analysis and solution from the Technical Opinion of the European Railway Agency ERA/OPI/2014-2 of 19 th May 2014 as approved at RISC 70, into account. Moreover, the references to the draft version of TSI INF were replaced by the published TSI INF 1299/2014.

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The platform height is defined in TSI INS HS 4.2.20.4 and in TSI PRM 4.1.2.18.1.

TSI INS HS 4.2.20.4:

The nominal platform height above the running plane shall be either 550 mm or 760 mm, unless otherwise specified in section 7.3. The tolerances perpendicular to the running surface with reference to the nominal relative positioning between track and platform are −30 mm/+ 0 mm.

TSI PRM 4.1.2.18.1:

For platforms on the Conventional Rail Network, two nominal values are permissible for platform height: 550 mm and 760 mm above the running surface. The tolerances on these dimensions shall be within –35 mm/+ 0 mm.

The clauses “Platform height” has to be assessed in the phases “Design and development” as well as “Constructed, before putting into service”.

Two interpretations are possible:

a) The tolerances are referred to the actual platform height, so there is an absolute maximum of 550 m/760 mm:

- the nominal value is 550 mm or 760 mm
- the actual value (constructed) can range in the tolerances of -30/+0 mm (-35/+0 mm),

or

b) The tolerances are referred to the nominal value only, so that

- the nominal value may range between 520 (515) mm and 550 mm respectively between 730 (725) mm and 760 mm
- the actual value (constructed) is assessed according to “general tolerances” (see RFU-STR-043) in reference to the current nominal value.

Interpretation a) raised some problems because in engineering processes for construction there is no zero-tolerance, so that the constructors would have to change their nominal value to 540 mm.

Interpretation b) seems to be preferable, as there is no reason for a zero-tolerance in construction phase, and TSI PRM says explicitly “the tolerances on these dimensions...”, referring to the nominal values.

TSI INF 1299/2014 does not include any tolerances for the platform height:

4.2.9.2 Platform Height (1) The nominal platform height shall be 550 mm or 760 mm above the running surface for radii of more than 300 m.

That means:

- the nominal value is 550 mm or 760 mm (without any tolerance; exceptions according to chapters TSI INS HS 7.3 resp. TSI PRM 7.4.1.1)
- the actual value (constructed) is assessed according to “general tolerances” (RFU-STR-043) in reference to the current nominal value of 550 or 760 mm.

A harmonised solution within NB Rail is needed because of the following reasons:

1. There are a lot of long lasting Infrastructure projects which will be constructed and assessed according to the old TSIs (2008/217/EC, 2008/164/EC) for the next couple of years
2. The new TSI INF 1299/2014 does not give a clear requirement for the assessment of the platform height in the construction phase, because there is no tolerance given in the new TSI INF. Consequently, different solutions will be applied in all member states.
3. NB Rail believes that the platform height is a very important parameter for the interface of the rolling stock subsystem with the infrastructure subsystem.

SUGGESTED RESOLUTION / INTERPRETATION

Solution for HS INF TSI and PRM TSI:

The requirements set in clauses 4.2.20.4 of HS INF TSI and 4.1.2.18.1 of PRM TSI define two possible nominal heights of platform (550 mm and 760 mm), for the high speed and conventional network. Pair of tolerances, upper and lower, is assigned to these two nominal values, defining then a range within which the actual height of the

platform may fall while still being considered acceptable. The upper deviation that is the difference between the maximum actual value and the nominal value, for both TSIs is set to 0 mm and the lower deviation, that is the difference between the minimum actual value and the nominal value, is set to -30 mm, for the HS INF TSI, and to - 35 mm, for the PRM TSI. It is not possible to change the "nominal value" during the construction phases: this is a "single design value" and it is a reference also for the construction: the manufacturers shall put in place their best practices in order to build the components whose actual dimensions are as close as possible to the nominal, but still in the acceptable range defined by the tolerances. When defining tolerances, if the upper deviation is set to 0 mm, it means that the nominal value is meant to be also the maximum acceptable actual value (see case 2) of NB Rail RFU-STR-043 of 05/9/2012). **Therefore the correct interpretation is a). The nominal value of the platform height (when designing) shall be 550 mm or 760 mm. The actual (constructed) value of platform height shall fall**, when assessing the requirement before putting into service, **within the range defined by the tolerances:** for example, for a nominal platform height of 550 mm, the actual value shall be in the range 520 mm —550 mm (HS INF TSI) or 515 mm —550 mm (PRM TSI).

Solution for new INF TSI 1299/2014:

The solution is very similar to above mentioned TSIs (HS INF TSI and PRM TSI). **The nominal value of the platform height (when designing) shall be 550 mm or 760 mm.** For assembly before putting into service phase the solution from the application guide (ERA/GUI/07-2011/INT, version 2.0) shall be used: For the assessment of the platform height in the "after assembly - before putting into service" phase, it is expected that the tolerances and specific assessment procedures usually defined by the applicant will be considered. If the applicant does not specify the tolerances then tolerances from the old PRM TSI can be used (-35/+0 mm).

ORGANISATION(S) REQUESTED TO RESPOND (E.G. TSI GROUP, RISC, ERA ETC.)
ERA
DATE OF AGREEMENT AT NB RAIL PLENARY MEETING
PM 40, 05/02/2014
RESPONSE FROM ORGANISATION ABOVE
ERA issued the TO ERA/OPI/2014-2 on 19/05/2014

European Railway Agency

Executive Director

OPINION

ERA/OPI/2014-2

OF THE EUROPEAN RAILWAY AGENCY

FOR

EUROPEAN COMMISSION

REGARDING

QUESTION AND CLARIFICATION NB RAIL - QC-INF-011

Disclaimer:

The present document is a non-legally binding opinion of the European Railway Agency. It does not represent the view of other EU institutions and bodies, and is without prejudice to the decision-making processes foreseen by the applicable EU legislation. Furthermore, a binding interpretation of EU law is the sole competence of the Court of Justice of the European Union.

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1 General Context

1. In its letter MOVE B2/IV/fz Ares (2014) 5th March 2014 addressed to the Executive Director of the European Railway Agency ("ERA"), the European Commission requested ERA to prepare the technical opinion regarding the question/clarification of NB-Rail number QC-INF-011 concerning the assessment of the requirement "Platform height".
2. The QC-INF-011 was issued by NB-Rail Infrastructure Subgroup on 5th February 2014 and accepted at NB-Rail Plenary meeting on 5th February 2014. It relates to the interpretation of the requirements in clause 4.2.20.4 of the technical specification for interoperability relating to the 'infrastructure' sub-system of the trans-European high-speed rail system annexed to Commission Decision 2008/217/EC[1] ("HS INF TSI") and in clause 4.1.2.18.1 of the technical specification for interoperability relating to 'persons with reduced mobility' in the trans-European conventional and high-speed rail system annexed to Commission Decision 2008/164/EC[2] ("PRM TSI"). The issue raised therein relates to how the tolerances should be interpreted when assessing the requirement 'platform height' in the phases of "Design and developments" and "Constructed, before putting into service".

2 Legal Background

1. According to ***Clause 4.2.20.4 Platform height*** of the HS INF TSI, *"Lines of category I, II and III. The nominal platforms height above the running plane shall be either 550 mm or 760 mm, unless otherwise specified in section 7.3. The tolerances perpendicular to the running surface with reference to the nominal relative positioning between track and platform are -30 mm/+0 mm".*
2. According to ***Annex B1 Assessment of the infrastructure subsystem*** of the HS INF TSI, the requirement of clause 4.2.20.4 must be assessed in the *'Detailed design and execution design, before construction'* phase and in the *'Constructed, before putting into service'* phase.
3. According to ***Clause 4.1.2.18.1 Platform height*** *of the* PRM TSI, *"For platforms on the High Speed Network where no trains complying with the High-Speed Rolling Stock TSI is intended to stop in normal commercial operation and for platforms on the Conventional Rail Network, two nominal values are permissible for platform height: 550 mm or 760 mm above the running surface. The tolerances on these dimensions shall be within -35 mm/+0 mm.....".*

[1] OJ L 77, 19.3.2008, p. 1.
[2] OJ L 64, 7.3.2008, p. 72 (as last amended by Annex III of Commission Decision 2012/464/EU of 23 July 2012, OJ L 217, 14.08.2012, p. 20)

4. According to ***Annex E Assessment of the subsystems*** of the PRM TSI, the requirement of clause 4.1.2.18.1 must be assessed in the *'Design review and/or design examination'* phase and in the *'Assembly (before putting into service)'* phase.
5. Both HS INF TSI and PRM TSI foresee to assess the requirement of 'Platform height' in two phases: during the design and after the platform itself has been built, before putting into service

3 Analysis

1. The requirements set in clauses 4.2.20.4 of HS INF TSI and 4.1.2.18.1 of PRM TSI define two possible nominal heights of platform (550 mm and 760 mm), for the high speed and conventional network.
2. A pair of tolerances, upper and lower, are assigned to these two nominal values, defining then a range within which the actual height of the platform may fall while still being considered acceptable. The upper deviation, that is the difference between the maximum actual value and the nominal value, for both TSIs is set to 0 mm and the lower deviation, that is the difference between the minimum actual value and the nominal value, is set to -30 mm, for the HS INF TSI, and to -35 mm, for the PRM TSI.
3. In engineering design, the value of a dimension is called 'nominal' when this value is the theoretical value to be taken as reference for the design and for the following manufacturing of the component. Then, as it is virtually impossible to obtain precisely the 'nominal' value when manufacturing a component, some tolerances are assigned to the nominal value, defining the limit, for the actual value, of acceptable unintended deviation from the nominal.
4. It is not possible to change the "nominal value" during the construction phases: this is a "single design value" and it is a reference also for the construction: the manufacturers shall put in place their best practices in order to build the components whose actual dimensions are as close as possible to the nominal, but still in the acceptable range defined by the tolerances.
5. When defining tolerances, if the upper deviation is set to 0 mm, it means that the nominal value is meant to be also the maximum acceptable actual value (see case 2) of NB Rail RFU-STR-043 of 05/9/2012).
6. ERA considers, therefore, as correct the interpretation a) in page 1 of QC-INF-011 from NB RAIL: the actual (constructed) value of platform height shall fall, when assessing the requirement before putting into service, within the range defined by the tolerances: for example, for a nominal platform height of 550 mm, the actual value shall be in the range 520 mm – 550 mm (HS INF TSI) or 515 mm – 550 mm (PRM TSI).

7. Intepretation b), as well as solution B, are, on the other hand, not correct: the tolerances written in the TSIs do not apply to the nominal value of the platform height (which is a "single design value"): in that respect, RFU-STR-043 is right when it states that *"Tolerances are not applicable for design values"*.

4 The opinion

1. Following the above analysis, ERA is of the opinion that:
    a. The nominal value of the platform height (when designing) shall be 550 mm or 760 mm.
    b. The actual value of platform height (when assessing, before putting into service) shall be
        i. For the nominal value of 550 mm, in the range 520 mm – 550 mm (HS INF TSI) or 515 mm – 550 mm (PRM TSI).
        ii. For the nominal value of 760 mm, in the range 730 mm – 760 mm (HS INF TSI) or 725 mm – 760 mm (PRM TSI).

Valenciennes, 19 MAI 2014

Marcel VERSLYPE
Executive Director