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## RECOMMENDATION FOR USE

### NB-RAIL COORDINATION GROUP

Administrative Decision according to Interoperability Directive  
(EU) 2016/797 art. 30.6



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RFU-RST-302

Issue 02

Date 23/06/2020

#### TITLE

DEGRADED MODES AND CONDITIONS

#### ORIGINATOR

TÜV SÜD Nederland

#### SUBJECT RELATED TO

- Directives (EU) 2016/797 and 2008/57/EC
- Regulation (EU) 1302/2014 (LOC&PAS TSI)
- Regulation (EU) 321/2013 (WAG TSI)
- Regulation (EU) 2019/776

#### AMENDMENT RECORD:

20-02-2019 First issue

18-03-2020 Update of legal references

#### DESCRIPTION AND BACKGROUND EXPLANATION

##### References:

- [1] Interoperability Directive (EU) 2016/797
- [2] Interoperability Directive 2008/57/EC, as amended
- [3] Regulation (EU) No. 1302/2014, as amended (TSI LOC&PAS)
- [4] Regulation (EU) No. 321/2013, as amended (TSI WAG)

##### Background:

The NoBo's task is to assess within the boundaries of the TSIs the **design operating state**, which covers the **normal operating mode** and the **foreseeable degraded conditions**. See [1] (similar in [2]):

“Article 15 (3)

*The **task of the notified body** [...] shall begin at the design stage and cover the entire manufacturing period **through to the acceptance stage before the subsystem is placed on the market** or in service. [...]*

Article 2:

(35) ‘**placing on the market**’ means the first making available on the Union's market of an interoperability constituent, subsystem or vehicle **ready to function in its design operating state**;

(31) ‘**design operating state**’ means the **normal operating mode** and the **foreseeable degraded conditions** (including wear) within the range and the conditions of use specified in the technical and maintenance files.”

##### Description of the situation:



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There are two ambiguities with this definition:

1. It is not clear what “foreseeable degraded conditions” means, and
2. At some places (e.g. [3], section 4.2.4.5.2 and 4.2.12.3.2) the term “degraded mode” is used, which is not mentioned in Article 2 of [1].

Section 4.2.4.5.2 “Emergency braking” in [3] distinguishes between degraded mode (stopping distance longer than in normal mode, due to failure(s) in the brake system), and degraded conditions (reduced friction coefficient). TSI LOC&PAS [3] states in 4.2.12.4 “Operating documentation” (2): “... the various reasonably foreseeable degraded modes in case of safety significant failures of equipment or functions described in this TSI ...”

This justifies the allocation of “degraded mode” to an internal failure in the subsystem or the interoperability constituent and “degraded condition” to an unfavourable external influence.

#### RFU PROPOSAL

- 1) The following definitions are introduced for Rolling Stock TSIs:
  1. Degraded condition = unfavourable external influence on the subsystem or the interoperability constituent.
  2. Degraded mode = failure, or wear limit reached, in the subsystem or interoperability constituent itself.
- 2) According to TSI LOC&PAS [3] 4.2.12.4 (2) and similar in TSI WAG [4] 4.4, the applicant is obliged to give in the operating documentation “*a description of the various reasonably foreseeable degraded modes in case of safety significant failures of equipment or functions described in this TSI, together with the related acceptable limits and operating conditions of the unit that could be experienced.*” The NoBo shall verify that this information is present. However, according to [3] 6.2.6 (2) and similar in [4] 4.4, “*the Notified Body is not required to verify the information contained in the documentation provided.*”
- 3) The NoBo scope of assessment is limited to the TSI requirements. The NoBo shall only assess the effects of those degraded modes and conditions that are explicitly mentioned in the TSIs and/or the referred mandatory standards (respective their sections), on the TSI requirements under assessment.

#### THIS RFU WAS AGREED ON

PLENARY MEETING 059

#### THIS RFU ENTERS INTO FORCE ON

23/06/2020 (DATE OF PUBLICATION)

FROM THIS DATE ON THIS RFU CAN BE APPLIED INSTEAD OF THE PREVIOUS MANDATORY



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VERSION.

#### RFU APPLICATION IS MANDATORY STARTING FROM

23/06/2020

AT THIS DATE ANY PREVIOUS VERSIONS OF THIS RFU WILL BE WITHDRAWN.

RFUS SHALL BE APPLIED BY ALL NOBOS. PLEASE REFER TO RFU-STR-702, CHAPTER 3 OF THE SECTION "DESCRIPTION AND BACKGROUND EXPLANATION", FOR THE LEGAL BASIS SUPPORTING THIS OBLIGATION.

#### ERA COMMENTS

PLE 059 – 17/06/2020: NO COMMENTS