



RECOMMENDATION FOR USE

NB-RAIL COORDINATION GROUP
INTEROPERABILITY DIRECTIVE AND SUBSEQUENT
AMENDMENTS ON THE INTEROPERABILITY OF THE
RAIL SYSTEM WITHIN THE UNION

RFU-ENE-097

Issue 01
Date 19/11/2018
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TITLE	
PANTOGRAPH SPACING ASSESSMENT	
ORIGINATOR	SUBJECT RELATED TO
ITALCERTIFER	ENE TSI 1301/2014
AMENDMENT RECORD: ISSUE 01 FROM LB-ENE-016	
DESCRIPTION AND BACKGROUND EXPLANATION	
<p>The aim of this question is to clarify the assessment of dynamic behaviour and quality of current collection inside the Conformity assessment process for overhead contact line as IC.</p> <p><u>Background:</u> TSI 1301/2014: Chapter 4.2.12. “Dynamic behaviour and quality of current collection” (1) Depending on the assessment method, the overhead contact line shall achieve the values of dynamic performance and contact wire uplift (at the design speed) set out in Table 4.2.12.</p> <p>Chapter 5.2.1.5. Pantograph spacing for overhead contact line design <i>“The overhead contact line shall be designed for pantograph spacing as specified in point 4.2.13”</i></p> <p>Chapter 6.1.4.1. Assessment of dynamic behaviour and quality of current collection <i>“(2)(d) The simulation shall be performed for single pantograph and multiple pantographs with spacing according to the requirements set in point 4.2.13”</i></p> <p>ERA-GUI-07-2011-INT Rev 2.0: Chapter 2.6.2.1.1 “Assessment of dynamic behaviour and quality of current collection”, fourth paragraph “Assessment of this requirement is defined in point 6.1.4 of the ENE TSI and the performance is confirmed by simulation at each of the speed / pantograph spacing combination for which the overhead line has been designed”.</p> <p><u>Description of the situation:</u> As an example, take into consideration a “Category A, 3 kVcc” Overhead Contact Line, designed for a maximum speed of 200 km/h”. A set of simulations of dynamic interaction with at least 2 pantographs has to be performed, in order to assess the compliance of all representative features of the OCL. According table 4.2.13, the related spacing is equal to 200 m. If simulations with a speed of 200 km/h and a spacing of 200 m are performed with positive results, is it possible to consider this catenary as compliant for lower</p>	

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speeds and spacing, according table 4.2.13? Are these conditions implicitly satisfied (160 km/h and 20 m, 120 km/h and 20 m, 80 km/h and 8 m)?

Otherwise, is it needed to perform simulations also for lower speeds and related spacing, in order to demonstrate the compliance for each condition?

Question: Can positive results from simulations of dynamic behavior for an OCL Design (defined by “voltage”, “category”, “speed” and “spacing”) be considered as demonstration of conformity for lower speeds / spacing condition of the same column in table 4.2.13?

RFU PROPOSAL

Solution: It is not possible to make comparisons between the dynamic behaviour of an OCL in different conditions of speed and spacing. Therefore, it is needed to perform simulations for each “speed/spacing” conditions, till the maximum speed of design.

THIS RFU WAS AGREED ON

PLE 054 – 18/10/2018

THIS RFU ENTERS INTO FORCE ON

19/11/2018

RFU APPLICATION IS MANDATORY STARTING FROM

19/01/2019

ERA COMMENTS

PLE 054 – 18/10/2018: NONE