



General Director's Office

Nr. ...1/246... / 20.01.2020

To: European Union Agency for Railways
In attention of: Executive Director

Dear Mr. Josef Doppelbauer,

In accordance with Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability regarding the control-command and signaling subsystems (CCS) of the railway system in the European Union, as amended by the Regulation Commission application (EU) 2019/776 of May 16, 2019, items 6.1.2.4. and 6.1.2.5. from the Annex, as Infrastructure Manager for the railway network in Romania, we send you the attached definitions of the checks needed to be performed on the CFR network to demonstrate the compatibility of ETCS system (ESC), respectively the compatibility of Radio system (RSC).

These definitions have been developed taking into account the following:

1. In Romania, on the network managed by "CFR" S.A., at this date, only one CCS trackside subsystem, namely ERTMS of level 2 implemented on the Buftea - Brazi distance, is EC certified;
2. ERTMS level 2 system implemented on the Buftea - Brazi distance has the following features:
 - a) ETCS supplier: Thales Transportation Systems GmbH
 - b) ETCS baseline: 2.3.0.d
 - c) ETCS additional functions: they are not
 - d) GSM-R supplier: Nokia Siemens Networks OY
 - e) GSM-R baseline: 0 (EIRENE FRS 7.0 and EIRENE SRS 15.0)
 - f) Additional GSM-R functions: eLDA
 - g) System version: 1.0
 - h) Date of EC certification of the track subsystem: 2019

Taking in account that at this date "CFR" S.A. does not have its own specialized laboratories nor has it established with other such third-party laboratories the possibility of carrying out compatibility checks, in case of requests for demonstration of ESC and/or RSC, "CFR" S.A. will carry out the verification of the specific documentation and/or the testing directly on its own the CCS trackside subsystems, with the support of the CCS subsystem providers, if is necessary. For these reasons, tests for interoperability constituents cannot be performed.

For all requests for demonstration of ESC and/or CSR the following are valid:

- the requests will be submitted to the headquarters of "CFR" S.A.: Blvd. Dinicu Golescu no. 38, sector 1, Bucharest, Romania, postal code 010873, tel. +40213192400, fax +40213192401, CFR tel.: 122001 or by e-mail to officeCFR@cfr.ro;
- the location for the verification of the specific documentation is at the headquarters of "CFR" S.A.;
- the location for the tests: rail section Buftea – Brazi.

Cordially,

General Director
Marian Marius CHIPER



Annex (updated) to the letter no. 1/246/20.01.2020

A. Definition of checks to demonstrate the compatibility of the ETCS system for type ESC-1

No.	ESC check number	Definition of each check to be performed	Criteria to pass each check
1.	Test 1	The train driver enter the following operational numbers on the train data into the DMI, and at the end of each number press the validation button: a. 12345 b. 1234 c. 123 d. 12 e. 023456 f. 02345 g. 0234 h. 023 i. 02 j. 12340 k. 1230 l. 120 m. 10 n. 023450 o. 02340 p. 0230 q. 020	On the RBC workstation, in the list of registered trains, the corresponding number must be displayed: a. 12345 b. 1234 c. 123 d. 12 e. 23456 f. 2345 g. 234 h. 23 i. 2 j. 12340 k. 1230 l. 120 m. 10 n. 23450 o. 2340 p. 230 q. 20
2.	Test 2	The train makes the transition from STM to L2 on integrated automatic line block, with the border signal on the STOP aspect (red or dark), with both permissive lamps defective (green and yellow), the border signal INDUSI I60 ATP national system will be active and the driver will not push the override button for national system.	Regardless of the ETCS mode displayed on the DMI after the transition from STM to L2, the train must apply the emergency brake until standstill.
3.	Test 3	The train makes the transition from L2 to STM, the first traffic signal encountered after the transition shows the STOP aspect (red or dark).	The train in STM mode must be able to override the active INDUSI I60 ATP system from the first traffic signal encountered after the L2/STM transition with a speed greater than 20km / h.
4.	Test 4	a. The train is in SB mode with a valid position in the TAF request window, in front of the next traffic signal that has conditions to issue the MA OS.	The driver must have the possibility of acknowledge only the SR mode, after the SoM, and only after acknowledging this mode driver must to receive the TAF request

No.	ESC check number	Definition of each check to be performed	Criteria to pass each check
		b. The driver performs SoM and successively acknowledge the SR mode, TAF and OS mode.	and after acknowledging that, the OS mode acknowledgment request will come on the DMI. The train must be able to run in OS mode after this signal.
5.	Test 5	The train runs in FS mode passing a balise group (BG) consisting of 2 balises in the following situations: - One balise in the BG is defective (missing) - Both balises in the BG are defective (missing)	In both cases, the OBU reports to the RBC workstation the label of the defective balises group.
6.	Test 6	The train runs in FS mode through a non stopping area.	The OBU must be able to display the non stopping area information on the DMI, announced on fixed locations, established and received from RBC.
7.	Test 7	1. Transmitting the OBU - RBC key from on-board to trackside: -The infrastructure manager provides the applicant RBC Id. -The applicant for the ESC test must be able to provide to the infrastructure manager the OBU-RBC connection key KMAC, valid in the OBU, in the format "48 bytes, ASCII, unencrypted", accompanied by OBU Id. 2. Transmitting key RBC - OBU from trackside to on-board: -The applicant provides the infrastructure manager with the OBU Id with which will perform the test. -The infrastructure manager provides the applicant with the RBC-OBU KMAC connection key, valid in RBC, in the format "48 bytes, ASCII, unencrypted". -The applicant enters through the specific software the key received in the OBU.	The train must be able to connect to the RBC at least in one of the 2 cases.

B. Definition of the checks to prove the compatibility of the radio system for the RSC-1 type

No.	RSC check number	Definition of each check to be performed	Criteria to pass each check
1	Test 1	<p>The train driver enter the following operational numbers on Cab Radio, and at the end of each number press the validation button:</p> <ul style="list-style-type: none"> a. 12345 b. 1234 c. 123 d. 12 e. 023456 f. 02345 g. 0234 h. 023 i. 02 j. 12340 k. 1230 l. 120 m. 10 n. 023450 o. 02340 p. 0230 q. 020 	<p>On CTS Console, in the list of registered trains, the corresponding number must be displayed:</p> <ul style="list-style-type: none"> a. 12345 b. 1234 c. 123 d. 12 e. 23456 f. 2345 g. 234 h. 23 i. 2 j. 12340 k. 1230 l. 120 m. 10 n. 23450 o. 2340 p. 230 q. 20