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| *TEST CASE DESCRIPTION* | | | | | | | |
|  | | Code | Version | | | Title | |
| Test Case | | 4.1.6 | 1 | | | TSR management at level transition from L0+LZB to L2. TSR in L2 area. | |
|
| Baseline applicable | | Baseline 3 | | | | | |
| Test case author | | ADIF | | | | | |
| Test Objective(s) | | Verify that the EVC supervises the permitted speed for the TSR in the L2 area after performing the level transition from level L0 + LZB to level 2. | | | | | |
| Diagram | |  | | | | | |
| Starting conditions | | Level | | | 0 | | |
| Mode | | | UN | | |
| Train Speed (km/h) | | | Maximum permitted speed | | |
| Additional starting conditions | | | The train is approaching the transition border to L2.  A TSR is in the L2 area close to the level transition. This TSR shall be set in both systems (LZB and ETCS). | | |
| Sequence of the Test Case | | Checkpoints | | | | | |
| Step | Step description | Interfaces | | Description of what to be tested at the interface | | | OK? |
| 1 | The train is running in L0 + LZB and receives the announcement of the TSR (through the LZB). | DMI (O) | | Level L0 Symbol  UN Symbol | | |  |
| DMI (I) | |  | | |  |
| JRU | | M\_LEVEL=0  M\_MODE=4 | | |  |
| 2 | The train starts the braking curve to the TSR.  (This braking curve is only managed in LZB system, it does not appear in DMI) | DMI (O) | | Level L0 Symbol  UN Symbol | | |  |
| DMI (I) | |  | | |  |
| JRU | | M\_LEVEL=0  M\_MODE=4 | | |  |
| 3 | The EVC receives the order to connect with the RBC via balise group. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | | Packet 42  NID\_RBC  NID\_RADIO | | |  |
| Q\_RBC = 1  Q\_SLEEPSESSION = 0 | | |
| 4 | The EVC starts to establish safe radio connection. | DMI (O) | | Safe radio connection “Connection Up” symbol is displayed. | | |  |
| DMI (I) | |  | | |  |
| JRU | | Message 155  Message 32  Message 159  Message 129  Message 8  DMI\_SYMB\_STATUS  ST03 | | |  |
| 5 (\*) (\*\*)  (\*\*\*) | The LZB equipment runs the distance at which the acknowledgement of the transition to “End of LZB” is shown to the driver. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | |  | | |  |
| 6 (\*) (\*\*)  (\*\*\*) | The driver acknowledges the “End of LZB”. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | |  | | |  |
| 7 (\*) | The train receives the level transition announcement via balise group or RBC. | DMI (O) | | Level 2 transition announcement | | |  |
| DMI (I) | |  | | |  |
| JRU | | (LRBG1)  (if received from RBC Message 3/24/33)  Packet 41 | | |  |
| D\_LEVELTR = D1  M\_LEVELTR = 3  DMI\_SYMB\_STATUS  LE12  START DISPLAYING TEXT MESSAGE | | |
| 8 | The EVC receives a MA from the RBC. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | | Message 3  Packet 15  Packet 21 | | |  |
| Packet 27 | | |
| 9 | The EVC receives from the RBC TSR information located in the level 2 area. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | | (LRBG2) Message 3/24/33  Packet 65  NID\_TSR= TSR1  V\_TSR = V1  L\_TSR= L1  D\_TSR= D2 > D1 | | |  |
| 10 | The EVC runs the distance "D1" or the balise group with level transition order to L2 is read. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | | Packet 41  D\_LEVELTR = 32767 | | |  |
| M\_LEVELTR = 3 | | |
| 11 | Transition to L2 is performed. No abrupt decrease in the permitted speed takes place during the level transition. | DMI (O) | | Level 2 Symbol | | |  |
| FS Symbol  Vpermitted does not decrease  Level 2 transition announcement disappears | | |
| DMI (I) | |  | | |  |
| JRU | | M\_LEVEL= 3  M\_MODE = 0 | | |  |
| DMI\_SYMB\_STATUS  LE04, MO11  STOP DISPLAYING TEXT MESSAGE | | |
| 12 | The EVC reports to the RBC the train position due to the level transition. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | | Message 136  Packet 0 | | |  |
| M\_LEVEL=3 | | |
| 13 (\*\*\*\*) | The train reaches the TSR area when the max safe front end of the train has run the distance D2. | DMI (O) | | Vpermitted = V1 Vtrain ≤ V1 | | |  |
| DMI (I) | |  | | |  |
| JRU | | V\_MRSP = V1 V\_TRAIN ≤ V1  estimated front end = D2(LRBG2) - L\_DOUBTUNDER | | |  |
| 14 (\*\*\*\*) | The supervision of the TSR finishes when the min safe rear end of the train has reached the end of the TSR area. | DMI (O) | | Vpermitted > V1 | | |  |
| DMI (I) | |  | | |  |
| JRU | | estimated front end = D2 (LRBG2) + L1 + L\_TRAIN + L\_DOUBTOVER V\_MRSP = V\_STATIC | | |  |
| 15 (\*\*) (\*\*\*\*) | LZB equipment changes to “No transmission” mode.  Train continues in L2 + LZB without transmission. | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | |  | | |  |
| Final state | | Level | | 2 | | |  |
| Mode | | FS | | |  |
| Train Speed (km/h) | | NR | | |  |
| Other parameters | |  | | |  |
| Final Test Result | |  | | | | | |
| Field of Application | | Spain | | | | | |
| Briefing instructions | | (\*) These steps could take place at any different order.  (\*\*) In case that the LZB continues into the line, the train will continue with LZB in Transmission mode and these steps will not take place.  (\*\*\*) These steps should be checked in the LZB onboard unit.  (\*\*\*\*) These steps could take place at any different order. | | | | | |