|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *TEST CASE DESCRIPTION* | | | | | | | |
|  | | Code | Version | | Title | | |
| Test Case | | 3.17.33 | 2 | | TSR Management at level transition from LNTC 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 NTC LZB to level 2. | | | | | |
| Diagram | |  | | | | | |
| Starting conditions | | Level | | | | NTC LZB | |
| Mode | | | | SN | |
| Train Speed (km/h) | | | | NR | |
| Additional starting conditions | | | | The train is approaching the transition border to L2. It is requested to the signalman to set a TSR in the L2 area and 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 STM LZB and receives the announcement of the TSR (through the LZB) | DMI (O) | | Level NTC Symbol  SN Symbol | | |  |
| DMI (I) | |  | | |  |
| JRU | | M\_LEVEL=1 | | |  |
| M\_MODE=13 | | |
| 2 | The train starts the braking curve to the TSR. | DMI (O) | | Level NTC Symbol  SN Symbol  Braking curve with V\_target = V1 | | |  |
| DMI (I) | |  | | |  |
| JRU | | M\_LEVEL=1  M\_MODE=13  V\_TARGET=V1  V\_PERM decreases | | |  |
| 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 | | |
| 4 | The EVC starts to establish safe radio connection. | DMI (O) | | Safe radio connection “Connection Up” is displayed. | | |  |
| DMI (I) | |  | | |  |
| JRU | | Message 155  Message 32  Message 159 | | |  |
| Message 129  Message 8  DMI\_SYMB\_STATUS  ST03 | | |
| 5 | 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  L\_ACKLEVELTR = L1  DMI\_SYMB\_STATUS  LE12 | | |
| 6 | The EVC receives a MA from the RBC | DMI (O) | |  | | |  |
| DMI (I) | |  | | |  |
| JRU | | Message 3  Packet 15  Packet 21  Packet 27 | | |  |
| 7 | 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 | | |  |
| 8 | The EVC runs the distance “D1-L1” at which the acknowledgement window of the transition to Level 2 is shown to the driver. | DMI (O) | | Level 2 Acknowledgement is displayed | | |  |
| DMI (I) | |  | | |  |
| JRU | | Estimated front end=D1-L1-L\_DOUBTUNDER  DMI\_SYMB\_STATUS  LE13 | | |  |
| 9 | The driver acknowledges the level transition | DMI (O) | | Level 2 Acknowledgement disappears | | |  |
| DMI (I) | | Driver acknowledges the level transition. | | |  |
| JRU | | M\_DRIVERACTIONS = 8 | | |  |
| 10 | The train remains in the braking curve to the TSR. | DMI (O) | | Braking curve with V\_target = V1  Vtrain < Vpermitted | | |  |
| DMI (I) | |  | | |  |
| JRU | | V\_TRAIN < V\_PERM  SPEED AND DISTANCE MONITORING INFORMATION  V\_TARGET = V1  M\_SDMTYPE = 1 | | |  |
| 11 | 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 | | |
| 12 | Transition to L2 is performed. | DMI (O) | | Level 2 Symbol | | |  |
| FS Symbol  Level 2 transition announcement disappears | | |
| DMI (I) | |  | | |  |
| JRU | | M\_LEVEL= 3  M\_MODE = 0 | | |  |
| DMI\_SYMB\_STATUS  LE04, MO11 | | |
| 13 | 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 | | |
| 14 | 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\_TRAIN ≤ V1  estimated front end = D2(LRBG2) - L\_DOUBTUNDER  SPEED AND DISTANCE MONITORING INFORMATION  V\_PERM = V1  M\_SDMTYPE = 0 | | |  |
| 15 | 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\_PERM = V\_STATIC | | |  |
| Final state | | Level | | 2 | | |  |
| Mode | | FS | | |  |
| Train Speed (km/h) | | NR | | |  |
| Other parameters | |  | | |  |
| Final Test Result | |  | | | | | |
| Field of Application | | Spain | | | | | |
| Briefing instructions | | (\*) The order of this step could be different  If the train is equipped with L0+LZB instead of LNTC LZB, the test case shall be performed with L0+LZB. | | | | | |