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| *TEST CASE DESCRIPTION* | | | | | | |
|  | | Code | Version | | Title | |
| Test Case | | 3.17.33 | 1 | | TSR Management at level transition from LSTM LZB to L2. TSR in L2 area | |
|
| Baseline applicable | | Baseline 2 (2.3.0.d) | | | | |
| 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 STM LZB to level 2. | | | | |
| Diagram | |  | | | | |
| Starting conditions | | Level | | STM 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 STM 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 STM Symbol  SN Symbol  Braking curve with Vtarget = V1 | | |  |
| DMI (I) |  | | |  |
| JRU | M\_LEVEL=1  M\_MODE=13  V\_TARGET=V1  V\_PERMITTED 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 symbol is displayed. | | |  |
| DMI (I) |  | | |  |
| JRU | Message 155  Message 32  Message 159  Message 129  Message 8 | | |  |
| 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  START DISPLAYING TEXT MESSAGE (1) | | |  |
| 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 | START DISPLAYING TEXT MESSAGE (2)  Estimated front end=D1-L1-L\_DOUBTUNDER | | |  |
| 9 | The driver acknowledges the level transition. | DMI (O) | Level 2 Acknowledgement disappears | | |  |
| DMI (I) | Driver acknowledges the level transition. | | |  |
| JRU | M\_DRIVERACTIONS = 8  STOP DISPLAYING TEXT MESSAGE (2) | | |  |
| 10 | The train starts the braking curve to the TSR. | DMI (O) | Braking curve with V\_target = V1  Vtrain < Vpermitted | | |  |
| DMI (I) |  | | |  |
| JRU | V\_TRAIN < V\_PERMITTED V\_TARGET = V1 | | |  |
| 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 = 0/32767 | | |  |
| 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  STOP DISPLAYING TEXT MESSAGE (1) | | |  |
| 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\_MRSP = V1 V\_TRAIN ≤ V1  estimated front end = D2(LRBG2) - L\_DOUBTUNDER | | |  |
| 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\_MRSP = 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 LSTM LZB, the test case shall be performed with L0+LZB. | | | | |