|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *TEST CASE DESCRIPTION* | | | | | | |
|  | | Code | Version | Title | | |
| Test Case | | 3.5.7 | 1 | Verification of track conditions: Change of voltage supply zone. OS mode. | | |
|
| Baseline applicable | | Baseline 3 | | | | |
| Test case author | | ADIF | | | | |
| Test Objective(s) | | Verify the management of the change of voltage supply zone in OS mode. | | | | |
| Diagram | |  | | | | |
| Starting conditions | | Level | | | 2 | |
| Mode | | | FS | |
| Train Speed (km/h) | | | NR | |
| Additional starting conditions | | | The train is approaching to a zone with a different voltage supply. | |
| Sequence of the Test Case | | Checkpoints | | | | |
| Step | Step description | Interfaces | Description of what to be tested at the interface | | | OK? |
| 1 | The train receives information about the track conditions “non-stopping area - other reasons” and “change of voltage supply zone – lower pantograph”. | DMI (O) | Lower Pantograph symbol in the planning information area\* | | |  |
| DMI (I) |  | | |  |
| JRU | Message 3/24/33  LRBG  Packet 68  M\_TRACKCOND = 0  D\_TRACKCOND = D1  L\_TRACKCOND = L1  M\_TRACKCOND = 3  D\_TRACKCOND = D2  L\_TRACKCOND = L2  D2 corresponds approximately to 30 meters before the change of voltage supply start location | | |  |
| 2 | The EVC receives from balise or from RBC the announcement of change of voltage supply zone (text message information). | DMI (O) |  | | |  |
| DMI (I) |  | | |  |
| JRU | (LRBG1)  Packet 72  Q\_TEXTCLASS = 01  Q\_TEXTDISPLAY = 0  D\_TEXTDISPLAY = D1  M\_MODETEXTDISPLAY = 15  M\_LEVELTEXTDISPLAY = 5  L\_TEXTDISPLAY = 32767  T\_TEXTDISPLAY = 15s  M\_MODETEXTDISPLAY = 15  M\_LEVELTEXTDISPLAY = 5  Q\_TEXTCONFIRM = 0  X\_TEXT="Aproximación a Zona de Cambio de Tensión" | | |  |
| 3 | Non-Stopping Area symbol is displayed when the train reaches the distance D1 with its max safe front end.  “D1” is determined by the emergency brake distance running at the maximum permitted speed. | DMI (O) | Non-Stopping Area symbol | | |  |
| DMI (I) |  | | |  |
| JRU | estimated front end = D1 (LRBG) – L\_DOUBTUNDER | | |  |
| 4 | The text message “aproximación a zona de cambio de tension” is displayed according the initial conditions given by the packet 72 | DMI (O) | Text message “Aproximación a zona de cambio de tensión” | | |  |
| DMI (I) |  | | |  |
| JRU | estimated front end = D1 (LRBG1)  START DISPLAYING PLAIN TEXT MESSAGE (1) | | |  |
| 5 | After 15 seconds the text message stops being displayed | DMI (O) | Text message “Aproximación a zona de cambio de tensión” disappears | | |  |
| DMI (I) |  | | |  |
| JRU | STOP DISPLAYING PLAIN TEXT MESSAGE (1) | | |  |
| 6 | The EVC receives the information related to the text message indicating that the train is reaching the change of voltage supply zone | DMI (O) |  | | |  |
| DMI (I) |  | | |  |
| JRU | (LRBG2)  Packet 72  Q\_TEXTCLASS = 01  Q\_TEXTDISPLAY = 0  D\_TEXTDISPLAY = D3  M\_MODETEXTDISPLAY = 15  M\_LEVELTEXTDISPLAY = 5  L\_TEXTDISPLAY = L3  T\_TEXTDISPLAY = 1023  M\_MODETEXTDISPLAY = 15  M\_LEVELTEXTDISPLAY = 5  Q\_TEXTCONFIRM = 0  X\_TEXT="Llegada a Zona de Cambio de Tensión"  L3=Change of voltage supply zone start location | | |  |
| 7 | The text message “Llegada a zona de cambio de tensión” is displayed according the initial conditions given by the packet 72 | DMI (O) | Text message “Llegada a zona de cambio de tensión” | | |  |
| DMI (I) |  | | |  |
| JRU | START DISPLAYING PLAIN TEXT MESSAGE (2)  Estimated front end (LRBG2) = D3 | | |  |
| 8 | The train runs towards an open light signal for OS mode and receives from the RBC a Mode Profile for OS at a further location. | DMI (O) |  | | |  |
| DMI (I) |  | | |  |
| JRU | Message 3/33 (LRBG1)  Packet 15  Packet 80  D\_MAMODE= D1  M\_MAMODE=0  V\_MAMODE=V1=Vos  L\_ACKMAMODE=L1  Q\_MAMODE=0/1 | | |  |
| 9 | The train is approaching to OS area and the EVC supervises the entry in OS area as an EoA. | DMI (O) | Braking curve to the entry point of OS area. | | |  |
| DMI (I) |  | | |  |
| JRU | SPEED AND DISTANCE MONITORING INFORMATION  V\_PERM decreases  V\_TARGET = 0  M\_SDMTYPE=2 | | |  |
| 10 | The train follows the braking curve until it reaches the acknowledgement area and the driver is requested to acknowledge the transition to OS mode. | DMI (O) | Vtrain < V1 OS mode transition acknowledgement | | |  |
| DMI (I) |  | | |  |
| JRU | V\_TRAIN < V\_MAMODE  L1 ≥ D1 - D\_LRBG1  DMI\_SYMB\_STATUS  MO08 | | |  |
| 11 | The driver acknowledges the transition to OS mode. The EVC switches to OS mode and sends a position report to the RBC. | DMI (O) | OS symbol | | |  |
| DMI (I) | Acknowledgement of OS mode | | |  |
| JRU | M\_MODE=1  M\_LEVEL=3  M\_DRIVERACTIONS = 0  Message 136  Packet 0/1  M\_MODE=1  DMI\_SYMB\_STATUS  MO07 | | |  |
| 12 | The train reaches the lower pantograph announcement start location with its max safe front end. | DMI (O) | Lower Pantograph symbol  Non-Stopping Area symbol | | |  |
| DMI (I) |  | | |  |
| JRU | estimated front end= D2 (LRBG)-L\_DOUBTUNDER | | |  |
| 13 | The train reaches the change of voltage supply zone start location | DMI (O) | Lowered Pantograph symbol  Non-Stopping Area symbol  Text message “Llegada a zona de cambio de tensión” disappears | | |  |
| DMI (I) |  | | |  |
| JRU | estimated front end = L3 (LRBG2)  STOP DISPLAYING PLAIN TEXT MESSAGE (2) | | |  |
| 14\*\* | When the train reaches the distance “L2” with its min safe front end, the pantograph is raised. | DMI (O) | Raise Pantograph symbol  Non-Stopping Area symbol | | |  |
| DMI (I) |  | | |  |
| JRU | estimated front end = D2 (LRBG) + L2 + L\_DOUBTOVER | | |  |
| 15\*\* | When the train leaves the end of the change of voltage supply zone with its min safe rear end, the non-stopping area symbol is removed. | DMI (O) | Stop displaying Non-Stopping Area symbol  Raise Pantograph symbol | | |  |
| DMI (I) |  | | |  |
| JRU | estimated front end = D2 (LRBG) + L2 + L\_TRAIN + L\_DOUBTOVER | | |  |
| 16\*\* | 5s after the train leaves the end of the change of voltage supply zone with its min safe rear end, the raise pantograph symbol is removed. | DMI (O) | Stop displaying Raise Pantograph symbol | | |  |
| DMI (I) |  | | |  |
| JRU |  | | |  |
| Final state | | Level | 2 | | |  |
| Mode | OS | | |  |
| Train Speed (km/h) | NR | | | |
| Other parameters |  |  |  |  |
| Final Test Result | |  | | | | |
| Field of Application | | Spain | | | | |
| Briefing instructions | | The automatic lowering / raising of the pantograph shall be checked in the desk.  To carry out the test case, any possible overlap area with other lines should be taken into account.  \*It is not mandatory to display this information on the planning information area.  \*\*These steps do not apply in case the train enters in a non- electrified area | | | | |