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| *TEST CASE DESCRIPTION* | | | | | | |
|  | | Code | Version | Title | | |
| Test Case | | 1.9.7 | 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. | | | | |
| Diagram | |  | | | | |
| Starting conditions | | Level | | | 1 | |
| Mode | | | FS | |
| Train Speed (km/h) | | | NR | |
| Additional starting conditions | | | The train is approaching to a zone with a different voltage supply. OS mode. | |
| 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 | (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  DMI\_SYMB\_STATUS  TC10 | | |  |
| 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 reads the main signal BG that sends OS mode profile at a further location. | DMI (O) | FS mode symbol | | |  |
| DMI (I) |  | | |  |
| JRU | M\_MODE=0  (LRBG1)  Packet 12  Packet 80  D\_MAMODE=D1  M\_MAMODE=0  V\_MAMODE=Vos  L\_ACKMAMODE=L1  DMI\_SYMB\_STATUS  MO11 | | |  |
| 9 | The EVC supervises the beginning of the OS area as an EoA without release speed. | DMI (O) | Braking curve to the beginning of the OS area  Vtarget=0  Vpermitted and Dtarget decrease | | |  |
| DMI (I) |  | | |  |
| JRU | V\_PERMITTED decreases  V\_TARGET=0 | | |  |
| 10 | The train is inside the acknowledgement window running at a speed lower than the permitted speed in OS mode. | DMI (O) | Vtrain<Vos  Acknowledgment of OS mode message | | |  |
| DMI (I) |  | | |  |
| JRU | V\_TRAIN<V\_MAMODE  L1≥D1-D\_LRBG1  DMI\_SYMB\_STATUS  MO08 | | |  |
| 11 | The driver acknowledges the request for OS mode before reaching the beginning of the OS area. | DMI (O) | Acknowledgment of OS mode message disappears | | |  |
| DMI (I) | Driver acknowledges OS mode | | |  |
| JRU | M\_DRIVERACTIONS =0 | | |  |
| 12 | The EVC switches to OS mode before reaching the beginning of the stabling track circuit. | DMI (O) | OS mode symbol | | |  |
| DMI (I) |  | | |  |
| JRU | M\_MODE=1  DMI\_SYMB\_STATUS  MO07 | | |  |
| 13 | 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 | | |  |
| 14 | 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) | | |  |
| 15\*\* | 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  DMI\_SYMB\_STATUS  TC04, TC10 | | |  |
| 16\*\* | 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  DMI\_SYMB\_STATUS  TC04 | | |  |
| 17\*\* | 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 | 1 | | |  |
| 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.  \*The display of this information on the planning information area is not mandatory.  \*\*These steps do not apply in case the train enters in a non- electrified area | | | | |