

| PROJECT         | CUSTOMER | TRAIN    |
|-----------------|----------|----------|
| Xtrapolis-PRASA | PRASA    | 218– TFD |

RTR Train Functional Dynamic Testing TS218Report  
GIB0000006356



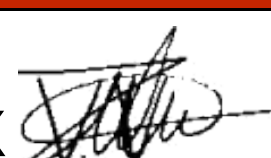
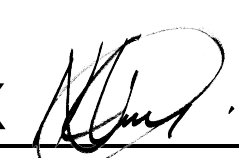
|           | CREATED       | VERIFIED       | APPROVED        | DISTRIBUTION                                                                                                                                                        |
|-----------|---------------|----------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name      | Vusumuzi ZULU | Sifiso LUKHELE | Kgomotso NKOANA | Confidentiality Category<br><i>Restricted</i> <i>Project</i> <i>Normal</i><br><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> |
| Date      | 24/04/2024    | 24/04/2024     | 24/04/2024      | Control Category<br><i>Controlled</i> <i>Not Controlled</i><br><input checked="" type="checkbox"/> <input type="checkbox"/>                                         |
| Signature |               |                |                 | Language<br><b>EN</b>                                                                                                                                               |

This report has been automatically generated from TES version 1

## Table of modifications

| Rev | Date       | Modifications Content | Writer        |
|-----|------------|-----------------------|---------------|
| A0  | 24/04/2024 | Creation              | Vusumuzi ZULU |

## Internal validations

|                 | Name            | Function            | Date       | Signature                                                                               |
|-----------------|-----------------|---------------------|------------|-----------------------------------------------------------------------------------------|
| <b>Creator</b>  | Vusumuzi ZULU   | EPU Manager         | 24/04/2024 | X    |
|                 |                 |                     |            | Vusumuzi ZULU<br>EPU Manager                                                            |
| <b>Verifier</b> | Sifiso LUKHELE  | Serial Test Manager | 24/04/2024 | X   |
|                 |                 |                     |            | Sifiso LUKHELE<br>Serial Test Manager                                                   |
| <b>Approver</b> | Kgomotso NKOANA | Test Expert         | 24/04/2024 | X  |
|                 |                 |                     |            | Kgomotso NKOANA<br>Test Expert                                                          |

## Execution Plan

|                   |            |
|-------------------|------------|
| <b>Start Date</b> | 19/04/2024 |
| <b>End Date</b>   | 23/04/2024 |

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Serial Tests Report  
TS218 – TFD  
RTR Train Functional Static Test Report

Document Reference  
GIB0000006356  
Version: A0

Emission date  
24/04/2024

## Section 1 – Purpose / Objectives

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|                                                                               |                                                    |                             |
|-------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------|
| Serial Tests Report<br>TS218 – TFD<br>RTR Train Functional Static Test Report | Document Reference<br>GIB0000006356<br>Version: A0 | Emission date<br>24/04/2024 |
|-------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------|

## Section 3 – Dynamic

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### 3.3 Instructions list

### 3.3.1 TFD-Dynamic

I - Information      A - Action      R - Result      NE - Not Executed

| N°    | Type | Instruction                                                                                                                                                                                                                                | File                                                                                | Result status | Result value | Operator                 | Vehicle |
|-------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------|--------------|--------------------------|---------|
| 10001 | I    | Dynamic Test                                                                                                                                                                                                                               |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10002 | I    | Initial conditions                                                                                                                                                                                                                         |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10003 | I    | This test shall be done under dry weather conditions i.e. no rain                                                                                                                                                                          |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10004 | I    | This test shall be carried out on a straight rail(R>=700m). The track must be well bedded with a maximum gradient =<5% of 3 km length. The track must be dry and clean before commencing the test to prevent degraded adhesion conditions. |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10005 | I    | The catenary nominal voltage should be 3.3 +/- 0.3 kV DC.                                                                                                                                                                                  |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10006 | I    | The test must be done with a complete 6-car configuration Prasa X'Trapolis Train.                                                                                                                                                          |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10007 | I    | All routine static tests must be completed before commencing with this test, unless authorization has been given by Management                                                                                                             |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10008 | I    | Dynamic Pre-Test has been completed                                                                                                                                                                                                        |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10009 | I    | The test shall be performed in M1 load configuration                                                                                                                                                                                       |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10010 | I    | Have a laptop ready with Train Tracer installed and loaded with the dashboard attached.                                                                                                                                                    |  | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10011 | I    | Refer to this image for all lamp in alarm module                                                                                                                                                                                           |  | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10012 | I    | Initial Conditions                                                                                                                                                                                                                         |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |
| 10013 | I    | Deadman switch 60S1 is in NORMAL position on both TC cars                                                                                                                                                                                  |                                                                                     | OK            |              | Nokuzola Mdluli - 491469 | Train   |

|       |   |                                                                                 |  |    |      |                          |       |
|-------|---|---------------------------------------------------------------------------------|--|----|------|--------------------------|-------|
| 10014 | I | The Traction Isolation switch 22S1 should be in NORMAL position on both TC cars |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10015 | A | Put the ERTMS switch 62S1 in ISOLATION position in both TC cars                 |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10016 | A | Apply the Safety procedure for movements before starting the test below         |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10017 | I | All traction units are in black colour on the DDU maintenance screen            |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10018 | A | Prepare the train in high voltage with active cab on TC1                        |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10019 | R | Read Min [TT] BKT_LineVoltageGl : 2700<= x                                      |  | OK | 3248 | Nokuzola Mdluli - 491469 | Train |
| 10020 | I | Movement preparation                                                            |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10021 | A | Put the switch 45S1 to 0 position to release the parking brake                  |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10022 | A | Select Driving Mode to EFFORT position                                          |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10023 | A | Put the direction selector switch in FORWARD position in TC1                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10024 | R | Lamp 31H1 is "ON" on the alarm module                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10025 | R | TA appears on DDU screen                                                        |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10026 | A | Force [TT] (TBCU1)DSP2_WR_inv_B_inv_on = 0.0                                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10027 | A | Force [TT] (TBCU2)DSP2_WR_inv_B_inv_on = 0.0                                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10028 | A | Force [TT] (TBCU3)DSP2_WR_inv_B_inv_on = 0.0                                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10029 | A | Force [TT] (TBCU4)DSP2_WR_inv_B_inv_on = 0.0                                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10030 | A | Slowly move the Master Controller to TRACTION position                          |  | OK |      | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                                         |  |    |   |                          |       |
|-------|---|---------------------------------------------------------------------------------------------------------|--|----|---|--------------------------|-------|
| 10031 | R | The train does not move                                                                                 |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10032 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc = 0.0                                           |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10033 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc = 0.0                                           |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10034 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0                                           |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10035 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc = 0.0                                           |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10036 | A | Release [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on                                                             |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10037 | A | Release [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on                                                             |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10038 | A | Release [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on                                                             |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10039 | A | Release [TT]<br>(TBCU4)DSP2_WR_inv_B_inv_on                                                             |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10040 | A | Put the direction selector switch in NEUTRAL position in TC1                                            |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10041 | R | Read Defined Variable [TT]<br>(MPU1)bcu1_tlnb = 0.0                                                     |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10042 | R | Read Defined Variable [TT]<br>(MPU1)li_drc_tc1dsnozeror1 = 0.0                                          |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10043 | A | Put the direction selector switch to FORWARD and again in NEUTRAL position to reset the emergency brake |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10044 | I | Traction and Electric Brake - Wheel Turn Test                                                           |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10045 | A | Prepare and run Dynamic dashboard                                                                       |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10046 | A | Record and SAVE the above dashboard for each car                                                        |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10047 | I | Traction and Brake M4 - Wheel Turn Test                                                                 |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10048 | A | Force [TT]                                                                                              |  | OK |   | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                                                                                                               |  |    |     |                          |       |
|-------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|-----|--------------------------|-------|
|       |   | (TBCU1)DSP2_WR_inv_B_inv_on = 0.0                                                                                                                                             |  |    |     |                          |       |
| 10049 | A | Force [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on = 0.0                                                                                                                               |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10050 | A | Force [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on = 0.0                                                                                                                               |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10051 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1TcuDrinC1 = 1.0                                                                                                                  |  | OK | 1   | Nokuzola Mdluli - 491469 | Train |
| 10052 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2TcuDrinC2 = 1.0                                                                                                                  |  | OK | 1   | Nokuzola Mdluli - 491469 | Train |
| 10053 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3TcuDrinC3 = 1.0                                                                                                                  |  | OK | 1   | Nokuzola Mdluli - 491469 | Train |
| 10054 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4TcuDrinC4 = 1.0                                                                                                                  |  | OK | 1   | Nokuzola Mdluli - 491469 | Train |
| 10055 | A | Put the direction selector switch in FORWARD position                                                                                                                         |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10056 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h                                                                                           |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10057 | R | The train is moving forward towards TC1 direction                                                                                                                             |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10058 | R | Read Min [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc : 1<= x                                                                                                                            |  | OK | 100 | Nokuzola Mdluli - 491469 | Train |
| 10059 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc = 0.0                                                                                                                 |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10060 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0                                                                                                                 |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10061 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc = 0.0                                                                                                                 |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10062 | I | For FORWARD direction:<br>Speed sensor 1 axle 1 (+)<br>Speed sensor 2 axle 1 (direction) (-)<br>Speed sensor axle 2 (+)<br>Speed sensor axle 3 (+)<br>Speed sensor axle 4 (+) |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10063 | R | Read Min [TT]                                                                                                                                                                 |  | OK | 4   | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                       |  |    |    |                          |       |
|-------|---|---------------------------------------------------------------------------------------|--|----|----|--------------------------|-------|
|       |   | (TBCU4)dsp2_rd_inv_fq_axle0_4 : 1<= x                                                 |  |    |    |                          |       |
| 10064 | R | Result Max [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle1_4 : x <= 0                             |  | OK | -4 | Nokuzola Mdluli - 491469 | Train |
| 10065 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle2_4 : 1<= x                                |  | OK | 4  | Nokuzola Mdluli - 491469 | Train |
| 10066 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle3_4 : 1<= x                                |  | OK | 5  | Nokuzola Mdluli - 491469 | Train |
| 10067 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle4_4 : 1<= x                                |  | OK | 5  | Nokuzola Mdluli - 491469 | Train |
| 10068 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10069 | A | Put the direction selector switch in REVERSE position                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10070 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10071 | R | The train is moving backward towards TC2 direction                                    |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10072 | R | Result Max [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle0_4 : x <= 0                             |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10073 | R | Read Min [TT]<br>(TBCU4)dsp2_rd_inv_fq_axle1_4 : 1<= x                                |  | OK | 1  | Nokuzola Mdluli - 491469 | Train |
| 10074 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10075 | A | Release [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on                                           |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10076 | I | Traction and Brake M1 - Wheel Turn Test                                               |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10077 | A | Force [TT]<br>(TBCU4)DSP2_WR_inv_B_inv_on = 0.0                                       |  | OK |    | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                       |  |    |     |                          |       |
|-------|---|---------------------------------------------------------------------------------------|--|----|-----|--------------------------|-------|
| 10078 | A | Put the direction selector switch in FORWARD position                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10079 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h   |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10080 | R | The train is moving forward towards TC1 direction                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10081 | R | Read Min [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc : 1<= x                                    |  | OK | 100 | Nokuzola Mdluli - 491469 | Train |
| 10082 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc = 0.0                         |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10083 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0                         |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10084 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc = 0.0                         |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10085 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle0_1 : 1<= x                                |  | OK | 2   | Nokuzola Mdluli - 491469 | Train |
| 10086 | R | Result Max [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle1_1 : x <= 0                             |  | OK | -3  | Nokuzola Mdluli - 491469 | Train |
| 10087 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle2_1 : 1<= x                                |  | OK | 3   | Nokuzola Mdluli - 491469 | Train |
| 10088 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle3_1 : 1<= x                                |  | OK | 3   | Nokuzola Mdluli - 491469 | Train |
| 10089 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle4_1 : 1<= x                                |  | OK | 4   | Nokuzola Mdluli - 491469 | Train |
| 10090 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10091 | A | Put the direction selector switch in REVERSE position                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10092 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                      |  |    |     |                          |       |
|-------|---|--------------------------------------------------------------------------------------|--|----|-----|--------------------------|-------|
| 10093 | R | The train is moving backward towards TC2 direction                                   |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10094 | R | Result Max [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle0_1 : x<br>≤ 0                          |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10095 | R | Read Min [TT]<br>(TBCU1)dsp2_rd_inv_fq_axle1_1 : 1≤ x                                |  | OK | 1   | Nokuzola Mdluli - 491469 | Train |
| 10096 | A | Put the Master controller in BRAKE position until the train comes to a complete stop |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10097 | A | Release [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10098 | I | Traction and Brake M2 - Wheel Turn Test                                              |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10099 | A | Force [TT]<br>(TBCU1)DSP2_WR_inv_B_inv_on = 0.0                                      |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10100 | A | Put the direction selector switch in FORWARD position                                |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10101 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h  |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10102 | R | The train moves forward towards TC1 direction                                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10103 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu1EffAchPerc = 0.0                        |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10104 | R | Read Min [TT]<br>(MPU1)BKT_Tbcu2EffAchPerc : 1≤ x                                    |  | OK | 101 | Nokuzola Mdluli - 491469 | Train |
| 10105 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu3EffAchPerc = 0.0                        |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10106 | R | Read Defined Variable [TT]<br>(MPU1)BKT_Tbcu4EffAchPerc = 0.0                        |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10107 | R | Result Max [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle0_2 : x<br>≤ 0                          |  | OK | -4  | Nokuzola Mdluli - 491469 | Train |
| 10108 | R | Read Min [TT]                                                                        |  | OK | 5   | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                       |  |    |    |                          |       |
|-------|---|---------------------------------------------------------------------------------------|--|----|----|--------------------------|-------|
|       |   | (TBCU2)dsp2_rd_inv_fq_axle1_2 : 1<= x                                                 |  |    |    |                          |       |
| 10109 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle2_2 : 1<= x                                |  | OK | 5  | Nokuzola Mdluli - 491469 | Train |
| 10110 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle3_2 : 1<= x                                |  | OK | 5  | Nokuzola Mdluli - 491469 | Train |
| 10111 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle4_2 : 1<= x                                |  | OK | 6  | Nokuzola Mdluli - 491469 | Train |
| 10112 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10113 | A | Put the direction selector switch in REVERSE position                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10114 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10115 | R | The train moves backward towards TC2 direction                                        |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10116 | R | Read Min [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle0_2 : 1<= x                                |  | OK | 1  | Nokuzola Mdluli - 491469 | Train |
| 10117 | R | Result Max [TT]<br>(TBCU2)dsp2_rd_inv_fq_axle1_2 : x <= 0                             |  | OK | -1 | Nokuzola Mdluli - 491469 | Train |
| 10118 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10119 | A | Release [TT]<br>(TBCU3)DSP2_WR_inv_B_inv_on                                           |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10120 | I | Traction and Brake M3 - Wheel Turn Test                                               |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10121 | A | Force [TT]<br>(TBCU2)DSP2_WR_inv_B_inv_on = 0.0                                       |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10122 | A | Put the direction selector switch in FORWARD position                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                       |  |    |     |                          |       |
|-------|---|---------------------------------------------------------------------------------------|--|----|-----|--------------------------|-------|
| 10123 | A | Put the Master controller in 100% TRACTION immediately, accelerate to speed 15 km/h   |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10124 | R | The train moves forward towards TC1 direction                                         |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10125 | R | Read Defined Variable [TT] (MPU1)BKT_Tbcu1EffAchPerc = 0.0                            |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10126 | R | Read Defined Variable [TT] (MPU1)BKT_Tbcu2EffAchPerc = 0.0                            |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10127 | R | Read Min [TT] (MPU1)BKT_Tbcu3EffAchPerc : 1<= x                                       |  | OK | 100 | Nokuzola Mdluli - 491469 | Train |
| 10128 | R | Read Defined Variable [TT] (MPU1)BKT_Tbcu4EffAchPerc = 0.0                            |  | OK | 0   | Nokuzola Mdluli - 491469 | Train |
| 10129 | R | Result Max [TT] (TBCU3)dsp2_rd_inv_fq_axle0_3 : x <= 0                                |  | OK | -2  | Nokuzola Mdluli - 491469 | Train |
| 10130 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle1_3 : 1<= x                                   |  | OK | 2   | Nokuzola Mdluli - 491469 | Train |
| 10131 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle2_3 : 1<= x                                   |  | OK | 3   | Nokuzola Mdluli - 491469 | Train |
| 10132 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle3_3 : 1<= x                                   |  | OK | 3   | Nokuzola Mdluli - 491469 | Train |
| 10133 | R | Read Min [TT] (TBCU3)dsp2_rd_inv_fq_axle4_3 : 1<= x                                   |  | OK | 3   | Nokuzola Mdluli - 491469 | Train |
| 10134 | A | Put the Master controller in BRAKE position until the train comes to a complete stop  |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10135 | A | Put the direction selector switch in REVERSE position                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10136 | A | Put the Master controller in TRACTION position and slowly accelerate to speed <5 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10137 | R | The train moves backward towards TC2 direction                                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |

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| 10138 | R | Read Min [TT]<br>(TBCU3)dsp2_rd_inv_fq_axle0_3 : 1<=<br>x                                                                                                                                                 |  | OK | 1     | Nokuzola Mdluli -<br>491469 | Train |
| 10139 | R | Result Max [TT]<br>(TBCU3)dsp2_rd_inv_fq_axle1_3 : x<br><= 0                                                                                                                                              |  | OK | -1    | Nokuzola Mdluli -<br>491469 | Train |
| 10140 | A | Put the Master controller in BRAKE<br>position until the train comes to a<br>complete stop                                                                                                                |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10141 | I | Wheel Turn Test Results Check                                                                                                                                                                             |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10142 | A | Analyse the recorded results before<br>continuing with the test. If the results are<br>out of range, the test must be STOPPED<br>immediately, and the respective car motor<br>wiring needs to be checked. |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10143 | R | M4 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)                                                                                                                                               |  | OK | 20.8  | Nokuzola Mdluli -<br>491469 | Train |
| 10144 | R | M1 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)                                                                                                                                               |  | OK | 18.86 | Nokuzola Mdluli -<br>491469 | Train |
| 10145 | R | M2 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)                                                                                                                                               |  | OK | 19.63 | Nokuzola Mdluli -<br>491469 | Train |
| 10146 | R | M3 - Time taken to reach 15km/h<br>Result Max : x <= 24 (s)                                                                                                                                               |  | OK | 20.32 | Nokuzola Mdluli -<br>491469 | Train |
| 10147 | R | All M cars reach 15km/h in less than 24<br>seconds                                                                                                                                                        |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10148 | I | All Motors Test Run                                                                                                                                                                                       |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10149 | A | Release [TT]<br>(TBCU1)DSP2_WVR_inv_B_inv_on                                                                                                                                                              |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10150 | A | Release [TT]<br>(TBCU2)DSP2_WVR_inv_B_inv_on                                                                                                                                                              |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10151 | A | Release [TT]<br>(TBCU4)DSP2_WVR_inv_B_inv_on                                                                                                                                                              |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10152 | A | Put the direction selector switch in<br>FORWARD position                                                                                                                                                  |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10153 | A | Slowly move the Master Controller to<br>TRACTION position until the train speed<br>reaches 15km/h                                                                                                         |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10154 | R | Read Defined Variable [TT]<br>(MPU1)bcu1_tlnb = 1.0                                                                                                                                                       |  | OK | 1     | Nokuzola Mdluli -<br>491469 | Train |

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| 10155 | R | Read Defined Variable [TT]<br>(MPU1)li_drc_tc1dsnozeror1 = 1.0                                                                                                                                                              |                                                                                     | OK | 1   | Nokuzola Mdluli -<br>491469 | Train |
| 10156 | A | Put the Master Controller in OFF position                                                                                                                                                                                   |                                                                                     | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10157 | R | The train comes to a standstill                                                                                                                                                                                             |                                                                                     | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10158 | I | Wheel Diameter Calibration                                                                                                                                                                                                  |                                                                                     | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10159 | I | Following conditions need to be met in order to successfully calibrate the wheel diameter. Ensure that the OTDR reference value of a Wheel Diameter has been entered.                                                       |                                                                                     | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10160 | A | 1) Train running on a straight track<br>2) Effort Driving Mode<br>3) Speed>15km/h<br>4) No wheel slippage<br>5) No Emergency Braking<br>6) Traction Effort = 0% (Coasting)<br>7) All Traction and Braking Units are working |                                                                                     | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10161 | A | On the DDU screen select "First Acquisition Request"                                                                                                                                                                        |                                                                                     | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10162 | A | Check if the wheel diameter for each axle is between 838 mm and 842 mm, see picture attached.                                                                                                                               |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10163 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx1 : 839<= x <= 841                                                                                                                                                               |                                                                                     | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10164 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx2 : 839<= x <= 841                                                                                                                                                               |                                                                                     | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10165 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx3 : 839<= x <= 841                                                                                                                                                               |                                                                                     | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10166 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu1WhDiamAx4 : 839<= x <= 841                                                                                                                                                               |                                                                                     | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10167 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu2WhDiamAx1 : 839<= x <= 841                                                                                                                                                               |                                                                                     | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10168 | R | Read Min/Max [TT]                                                                                                                                                                                                           |                                                                                     | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |

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|       |   | (MPU1)BKT_Bcu2WhDiamAx2 : 839<= x<br><= 841                       |  |    |     |                             |       |
| 10169 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu2WhDiamAx3 : 839<= x<br><= 841  |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10170 | R | Read Min/Max [TT]<br>(MPU1)BKT_Bcu2WhDiamAx4 : 839<= x<br><= 841  |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10171 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx1 : 839<= x<br><= 841 |  | OK | 839 | Nokuzola Mdluli -<br>491469 | Train |
| 10172 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx2 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10173 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx3 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10174 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu1WhDiamAx4 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10175 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx1 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10176 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx2 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10177 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx3 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10178 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu2WhDiamAx4 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10179 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx1 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10180 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx2 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10181 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx3 : 839<= x<br><= 841 |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |

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| 10182 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu3WhDiamAx4 : 839<=<br>x <= 841                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | OK | 840 | Nokuzola Mdluli -<br>491469 | Train |
| 10183 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx1 : 839<=<br>x <= 841                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | OK | 839 | Nokuzola Mdluli -<br>491469 | Train |
| 10184 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx2 : 839<=<br>x <= 841                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | OK | 839 | Nokuzola Mdluli -<br>491469 | Train |
| 10185 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx3 : 839<=<br>x <= 841                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | OK | 839 | Nokuzola Mdluli -<br>491469 | Train |
| 10186 | R | Read Min/Max [TT]<br>(MPU1)BKT_Tbcu4WhDiamAx4 : 839<=<br>x <= 841                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | OK | 839 | Nokuzola Mdluli -<br>491469 | Train |
| 10187 | I | Brake Tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10188 | I | For each test run, ensure the following are<br>done:<br>-Prepare the dashboard on train tracer to<br>record train performance<br>-Activate the relevant cab<br>-Login to DDU as Maintainer (70979080)<br>-Save each performance (only for speed of<br>60Km/h) result as .CVS on local drive of<br>service laptop<br>-Ensure there is enough space remaining<br>for each run, else put the train at the end<br>of the line<br>-From 40km/h tests IT IS FORBIDDEN to<br>do more than one run at a time on the<br>track, each run should start at the<br>beginning/end of the track |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10189 | I | Initial Conditions for each car:<br>-ERTMS is ISOLATED<br>-Driving mode set to EFFORT mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10190 | I | ALL the brake tests should be done from<br>the extremities of the test track                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10191 | I | Emergency Brake @ 20km/h TC1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10192 | A | Force [TT] SBK_BrakeDist = 0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10193 | A | Release [TT] SBK_BrakeDist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |
| 10194 | A | Put the direction selector switch in<br>FORWARD position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | OK |     | Nokuzola Mdluli -<br>491469 | Train |

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| 10195 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 20 +/- 2 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10196 | A | Push the emergency brake mushroom button 44S1                                                  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10197 | R | Result Max [TT] SBK_BrakeDist : x <= 42                                                        |  | OK | 28 | Nokuzola Mdluli - 491469 | Train |
| 10198 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10199 | A | Release the emergency brake button 44S1                                                        |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10200 | I | Service Brake @ 30km/h TC1                                                                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10201 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10202 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10203 | A | Put the direction selector switch in FORWARD position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10204 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 30 +/- 2 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10205 | A | Put the Master Controller in 100% BRAKE position                                               |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10206 | R | Result Max [TT] SBK_BrakeDist : x <= 87                                                        |  | OK | 54 | Nokuzola Mdluli - 491469 | Train |
| 10207 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10208 | I | Emergency Brake @ 40km/h TC1                                                                   |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10209 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10210 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10211 | A | Put the direction selector switch in FORWARD position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10212 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 40 +/- 2 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10213 | A | Push the emergency brake mushroom button 44S1                                                  |  | OK |    | Nokuzola Mdluli - 491469 | Train |

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| 10214 | R | Result Max [TT] SBK_BrakeDist : $x \leq 80$                                                    |  | OK | 62 | Nokuzola Mdluli - 491469 | Train |
| 10215 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10216 | A | Release the emergency brake button 44S1                                                        |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10217 | I | Service Brake @ 20km/h TC2                                                                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10218 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10219 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10220 | A | Put the direction selector switch in FORWARD position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10221 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 20 +/- 2 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10222 | A | Put the Master Controller in OFF position                                                      |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10223 | R | Result Max [TT] SBK_BrakeDist : $x \leq 60$                                                    |  | OK | 23 | Nokuzola Mdluli - 491469 | Train |
| 10224 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10225 | I | Emergency Brake @ 30km/h TC2                                                                   |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10226 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10227 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10228 | A | Put the direction selector switch in FORWARD position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10229 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 30 +/- 2 km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10230 | A | Put the Master Controller in OFF position                                                      |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10231 | A | Push the emergency brake mushroom button 44S1                                                  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10232 | R | Result Max [TT] SBK_BrakeDist : $x \leq 62$                                                    |  | OK | 40 | Nokuzola Mdluli - 491469 | Train |
| 10233 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |    | Nokuzola Mdluli - 491469 | Train |

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| 10234 | A | Release the emergency brake button 44S1                                                                                                                                                           |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10235 | I | Service Brake @ 40km/h TC2                                                                                                                                                                        |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10236 | A | Force [TT] SBK_BrakeDist = 0.0                                                                                                                                                                    |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10237 | A | Release [TT] SBK_BrakeDist                                                                                                                                                                        |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10238 | A | Put the direction selector switch in FORWARD position                                                                                                                                             |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10239 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 40 +/- 2 km/h                                                                                                    |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10240 | A | Put the Master Controller in 100% BRAKE position                                                                                                                                                  |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10241 | R | Result Max [TT] SBK_BrakeDist : x <= 113                                                                                                                                                          |                                                                                     | OK | 78 | Nokuzola Mdluli - 491469 | Train |
| 10242 | A | Put the direction selector switch in NEUTRAL position                                                                                                                                             |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10243 | I | ERTMS Dynamic                                                                                                                                                                                     |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10244 | A | Put the ERTMS switch 62S1 in NORMAL position in both TC cars                                                                                                                                      |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10245 | A | Active cab on TC1                                                                                                                                                                                 |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10246 | A | Use the procedure attached for ERTMS dynamic commissioning.                                                                                                                                       |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10247 | R | Dynamic ERTMS commissioning has been completed successfully                                                                                                                                       |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10248 | I | HIGH SPEED TEST                                                                                                                                                                                   |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10249 | I | For each and the following high-speed test make sure that the train is positioned at the start of the track, and the driver can see the Eurobalise on the track as shown in the picture attached. |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10250 | I | Service Brake @ 50km/h TC1                                                                                                                                                                        |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10251 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                                                                                                                    |                                                                                     | OK |    | Nokuzola Mdluli - 491469 | Train |

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| 10252 | A | Force [TT] SBK_BrakeDist = 0.0                                                                             |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10253 | A | Release [TT] SBK_BrakeDist                                                                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10254 | A | Put the direction selector switch in FORWARD position                                                      |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10255 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 50 +/- 2 km/h             |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10256 | A | Put the Master Controller in 100% BRAKE position                                                           |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10257 | R | Result Max [TT] SBK_BrakeDist : x <= 142                                                                   |  | OK | 95 | Nokuzola Mdluli - 491469 | Train |
| 10258 | A | Put the direction selector switch in NEUTRAL position                                                      |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10259 | I | Emergency Brake @ 50km/h TC2                                                                               |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10260 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                             |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10261 | A | Force [TT] SBK_BrakeDist = 0.0                                                                             |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10262 | A | Release [TT] SBK_BrakeDist                                                                                 |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10263 | A | Put the direction selector switch in FORWARD position                                                      |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10264 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 50 +/- 2 km/h             |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10265 | A | Push the emergency brake mushroom button 44S1                                                              |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10266 | R | Result Max [TT] SBK_BrakeDist : x <= 100                                                                   |  | OK | 89 | Nokuzola Mdluli - 491469 | Train |
| 10267 | A | Put the direction selector switch in NEUTRAL position                                                      |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10268 | A | Release the emergency brake button 44S1                                                                    |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10269 | I | For the following tests, ensure the dashboard is running and record each result and save each file as .CSV |  | OK |    | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                                |  |    |     |                          |       |
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| 10270 | I | Service Brake @ 60km/h TC1                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10271 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10272 | A | Put the train in starting position on the track                                                |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10273 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10274 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10275 | A | Put the direction selector switch in FORWARD position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10276 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10277 | A | Put the Master Controller in 100% BRAKE position                                               |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10278 | R | Result Max [TT] SBK_BrakeDist : x <= 171                                                       |  | OK | 135 | Nokuzola Mdluli - 491469 | Train |
| 10279 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10280 | I | Service Brake @ 60km/h TC2                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10281 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10282 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10283 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10284 | A | Put the direction selector switch in FORWARD position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10285 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10286 | A | Put the Master Controller in 100% BRAKE position                                               |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10287 | R | Result Max [TT] SBK_BrakeDist : x <= 171                                                       |  | OK | 140 | Nokuzola Mdluli - 491469 | Train |

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|-------|---|------------------------------------------------------------------------------------------------|--|----|-----|--------------------------|-------|
| 10288 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10289 | I | Emergency brake @ 60kh/h TC1                                                                   |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10290 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10291 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10292 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10293 | A | Put the direction selector switch in FORWARD position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10294 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10295 | A | Push the emergency brake mushroom button 44S1                                                  |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10296 | R | Result Max [TT] SBK_BrakeDist : x <= 121                                                       |  | OK | 117 | Nokuzola Mdluli - 491469 | Train |
| 10297 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10298 | A | Release the emergency brake button 44S1                                                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10299 | A | Put the train at the end of the line                                                           |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10300 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10301 | I | Emergency brake @ 60km/h TC2                                                                   |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10302 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10303 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10304 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10305 | A | Put the direction selector switch in FORWARD position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10306 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |

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|-------|---|------------------------------------------------------------------------------------------------|--|----|-----|--------------------------|-------|
| 10307 | A | Push the emergency brake mushroom button 44S1                                                  |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10308 | R | Result Max [TT] SBK_BrakeDist : x <= 121                                                       |  | OK | 118 | Nokuzola Mdluli - 491469 | Train |
| 10309 | A | Release the emergency brake button 44S1                                                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10310 | A | Put the direction selector switch in NEUTRAL position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10311 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10312 | I | Degraded mode @60 km/h TC1                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10313 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10314 | I | Degraded mode simulation                                                                       |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10315 | A | Force [TT] (TBCU1)f55_b_br_auth = 0.0                                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10316 | A | Force [TT] (TBCU2)f55_b_br_auth = 0.0                                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10317 | A | Force [TT] (TBCU3)f55_b_br_auth = 0.0                                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10318 | A | Force [TT] (TBCU4)f55_b_br_auth = 0.0                                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10319 | A | Put the direction selector switch in FORWARD position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10320 | R | Lamp 31H1 is "ON" on the alarm module                                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10321 | R | TA appears on DDU screen                                                                       |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10322 | A | Prepare the dashboard on Train Tracer to record the train performance                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10323 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10324 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10325 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10326 | A | Put the Master Controller in 100% BRAKE position                                               |  | OK |     | Nokuzola Mdluli - 491469 | Train |

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| 10327 | R | Result Max [TT] SBK_BrakeDist : x <= 171                                                       |  | OK | 155 | Nokuzola Mdluli - 491469 | Train |
| 10328 | A | Put the train at the end of the line                                                           |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10329 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10330 | I | Degraded mode @ 60km/h TC2                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10331 | A | Use maintenance code (70979080) to log into DMI screen and do start of mission                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10332 | A | Put the direction selector switch in FORWARD position                                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10333 | R | Lamp 31H1 is ON on the alarm module                                                            |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10334 | R | TA appears on DDU screen                                                                       |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10335 | A | Prepare the dashboard on Train Tracer to record the train performance                          |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10336 | A | Force [TT] SBK_BrakeDist = 0.0                                                                 |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10337 | A | Release [TT] SBK_BrakeDist                                                                     |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10338 | A | Put the Master Controller in MAX TRACTION position until the train speed reaches 60 +/- 2 km/h |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10339 | A | Put the Master Controller in 100% BRAKE position                                               |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10340 | R | Result Max [TT] SBK_BrakeDist : x <= 171                                                       |  | OK | 169 | Nokuzola Mdluli - 491469 | Train |
| 10341 | A | Release [TT] (TBCU1)f55_b_br_auth                                                              |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10342 | A | Release [TT] (TBCU2)f55_b_br_auth                                                              |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10343 | A | Release [TT] (TBCU3)f55_b_br_auth                                                              |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10344 | A | Release [TT] (TBCU4)f55_b_br_auth                                                              |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10345 | I | Remember to save the .csv result file on the local drive of the PC used                        |  | OK |     | Nokuzola Mdluli - 491469 | Train |
| 10346 | A | Put the train at the end of the line                                                           |  | OK |     | Nokuzola Mdluli - 491469 | Train |

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|-------|---|-------------------------------------------------------------------------------------------------|--|----|----|--------------------------|-------|
| 10347 | I | Normal service brake operation                                                                  |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10348 | A | Active cab on TC1                                                                               |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10349 | A | Put the direction selector switch in FORWARD position                                           |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10350 | R | Lamp 31H1 is "ON" on the alarm module                                                           |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10351 | R | TA appears on DDU screen                                                                        |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10352 | A | Put the Master controller in TRACTION position until the train speed reaches 10km/h             |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10353 | A | Put the Master controller in LOW BRAKE position until the train reaches a speed less than 3km/h |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10354 | R | Read Defined Variable [TT] (BCU1)LI_NOT_INHIB = 0.0                                             |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10355 | R | Read Defined Variable [TT] (BCU2)LI_NOT_INHIB = 0.0                                             |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10356 | R | Read Defined Variable [TT] (TBCU1)LI_NOT_INHIB = 0.0                                            |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10357 | R | Read Defined Variable [TT] (TBCU2)LI_NOT_INHIB = 0.0                                            |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10358 | R | Read Defined Variable [TT] (TBCU3)LI_NOT_INHIB = 0.0                                            |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10359 | R | Read Defined Variable [TT] (TBCU4)LI_NOT_INHIB = 0.0                                            |  | OK | 0  | Nokuzola Mdluli - 491469 | Train |
| 10360 | A | Put the Master controller in OFF position                                                       |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10361 | R | Observe that the train continues to brake until it comes to a complete stop                     |  | OK |    | Nokuzola Mdluli - 491469 | Train |
| 10362 | R | Read Min [TT] (BCU1)AO_SERV_BRAKE : 1.2<= x                                                     |  | OK | 38 | Nokuzola Mdluli - 491469 | Train |
| 10363 | R | Read Min [TT] (BCU2)AO_SERV_BRAKE : 1.2<= x                                                     |  | OK | 38 | Nokuzola Mdluli - 491469 | Train |
| 10364 | R | Read Min [TT] (TBCU1)AO_SERV_BRAKE : 1.2<= x                                                    |  | OK | 38 | Nokuzola Mdluli - 491469 | Train |

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|-------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|-------|-----------------------------|-------|
| 10365 | R | Read Min [TT]<br>(TBCU2)AO_SERV_BRAKE : 1.2<= x                                                                                                                                                                 |                                                                                     | OK | 38    | Nokuzola Mdluli -<br>491469 | Train |
| 10366 | R | Read Min [TT]<br>(TBCU3)AO_SERV_BRAKE : 1.2<= x                                                                                                                                                                 |                                                                                     | OK | 38    | Nokuzola Mdluli -<br>491469 | Train |
| 10367 | R | Read Min [TT]<br>(TBCU4)AO_SERV_BRAKE : 1.2<= x                                                                                                                                                                 |                                                                                     | OK | 38    | Nokuzola Mdluli -<br>491469 | Train |
| 10368 | A | Put the ERTMS switch 62S1 in<br>ISOLATION position in both TC cars                                                                                                                                              |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10369 | I | Brake Distances Results                                                                                                                                                                                         |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10370 | A | Zip All the recorded CSV files of Braking<br>distances into one folder and upload on<br>teams "shifts reports" channel under a<br>specific train folder.<br><br>Rename the folder as:<br>TSXX_Braking_Distances |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10371 | I | Train Acceleration Results                                                                                                                                                                                      |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10372 | A | Use the following spreadsheet to calculate<br>the acceleration                                                                                                                                                  |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10373 | A |                                                                                                                                                                                                                 |  | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10374 | A | On the recorded dashboard, check how<br>long it takes to reach 55km/h from<br>Rec_speed>0 using Trace CSV software.<br><br>Delta T (s)<br>Delta V (km/h)                                                        |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10375 | R | TC1 Acceleration<br>Result Min : 0.85<= x (m/s <sup>2</sup> )                                                                                                                                                   |                                                                                     | OK | 0.882 | Nokuzola Mdluli -<br>491469 | Train |
| 10376 | R | TC2 Acceleration<br>Result Min : 0.85<= x (m/s <sup>2</sup> )                                                                                                                                                   |                                                                                     | OK | 0.902 | Nokuzola Mdluli -<br>491469 | Train |
| 10377 | I | 25km/h Speed limit in Reverse Direction                                                                                                                                                                         |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10378 | A | Active Cab in TC1                                                                                                                                                                                               |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10379 | A | Select Driving Mode to EFFORT position                                                                                                                                                                          |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10380 | A | Put the direction selector switch in<br>REVERSE position                                                                                                                                                        |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |
| 10381 | A | Put the Master controller in 100% Traction<br>position                                                                                                                                                          |                                                                                     | OK |       | Nokuzola Mdluli -<br>491469 | Train |

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| 10382 | R | The maximum train speed reached is 25km/h             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10383 | A | Put the Master controller in OFF position             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10384 | R | The train comes to a complete stop                    |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10385 | A | Put the direction selector switch in NEUTRAL position |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10386 | A | Remove active cab in TC1                              |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10387 | I | 25km/h Speed limit in Reverse Direction               |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10388 | A | Active Cab in TC2                                     |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10389 | A | Select Driving Mode to EFFORT position                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10390 | A | Put the direction selector switch in REVERSE position |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10391 | A | Put the Master controller in 100% Traction position   |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10392 | R | The maximum train speed reached is 25km/h             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10393 | A | Put the Master controller in OFF position             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10394 | R | The train comes to a complete stop                    |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10395 | A | Put the direction selector switch in NEUTRAL position |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10396 | I | DEPOT mode speed limit TC1                            |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10397 | A | Put the driving mode switch in DEPOT position         |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10398 | A | Put the direction selector switch in FORWARD position |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10399 | A | Put the Master controller in 100% Traction position   |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10400 | R | The maximum train speed reached is 15km/h             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10401 | A | Put the Master controller in OFF position             |  | OK |  | Nokuzola Mdluli - 491469 | Train |

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| 10402 | R | The train comes to a complete stop                                                   |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10403 | A | Put the direction selector switch in NEUTRAL position                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10404 | I | DEPOT mode speed limit TC2                                                           |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10405 | A | Active cab on TC2                                                                    |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10406 | A | Put the driving mode switch in DEPOT position                                        |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10407 | A | Put the direction selector switch in FORWARD position                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10408 | A | Put the Master controller in 100% Traction position                                  |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10409 | R | The maximum train speed reached is 15km/h                                            |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10410 | A | Put the Master controller in OFF position                                            |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10411 | R | The train comes to a complete stop                                                   |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10412 | A | Put the direction selector switch in NEUTRAL position                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10413 | A | Remove active cab on TC2                                                             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10414 | I | Doors                                                                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10415 | I | Test 04 - PEA activation and override within timeout [PRASA-40-Val-2]                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10416 | A | Put the Master controller in TRACTION position and accelerate the train up to 10km/h |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10417 | A | Press Left and Right Door Authorization Buttons (50S6 and 50S5)                      |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10418 | R | When train is running above 5km/h it is not possible to get Door Authorization.      |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10419 | A | Pull any PEA on the train                                                            |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10420 | A | Before 10s elapses with PEA pulled, press the button 44S5 to override the PEA        |  | OK |  | Nokuzola Mdluli - 491469 | Train |

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| 10421 | R | TA lamp is ON                                                                                                  |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10422 | A | Apply brake until the complete stop of the Train.                                                              |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10423 | A | Reset PEA using the switch 44S6                                                                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10424 | I | Test 06 - PEA activation with timeout respected [PRASA-40-Val-1]                                               |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10425 | A | Put the Master controller in TRACTION position and accelerate the train up to 10km/h                           |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10426 | A | Pull another PEA on the train                                                                                  |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10427 | R | After 10s with PEA pulled, Emergency Brakes should be applied.                                                 |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10428 | A | Put the Master controller in OFF position                                                                      |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10429 | A | Press the button 54S3 twice to acknowledge the PEA                                                             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10430 | A | Reset PEA using the switch 44S6                                                                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10431 | A | Release Emergency Brakes                                                                                       |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10432 | I | Test 05 - PEA activation with Train speed lower than 5 km/h [PRASA-40-Val-4]                                   |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10433 | A | Put the Master controller in TRACTION position, pull any PEA on the train before the train speed reaches 5km/h |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10434 | R | An alarm appears on DDU screen warning that a PEA was pulled                                                   |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10435 | R | TA lamp turns OFF                                                                                              |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10436 | R | Emergency Brake is applied                                                                                     |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10437 | A | Press the button 54S3 twice to acknowledge the PEA                                                             |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10438 | A | Reset the PEA using switch 44S6                                                                                |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10439 | A | Open and close the doors on the side where the PEA was pulled                                                  |  | OK |  | Nokuzola Mdluli - 491469 | Train |

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| 10440 | R | All doors are closed on DDU screen                                                 |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10441 | A | Put the Master controller in OFF position                                          |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10442 | A | Reset Emergency Brakes                                                             |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10443 | I | Test 07 - PEA activation with reset PEA switch permanently active [PRASA-40-Val-3] |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10444 | A | Force [TT] (MPU1)lo_ubk_tc1resetpea = 1.0                                          |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10445 | A | Accelerate the train up to 10 km/h.                                                |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10446 | A | Pull any in TC1 car, but not till its final position                               |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10447 | I | The lamp 44H1 (Emergency Brake Interlock Open) turns ON.                           |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10448 | R | Read Defined Variable [TT] (MPU1)li_ubk_tc1pealoop = 1.0                           |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |
| 10449 | R | Read Defined Variable [TT] (MPU1)li_dor_tc1alldoorsclosedr1 = 0.0                  |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10450 | R | Read Defined Variable [TT] (MPU1)li_dor_tc1alldoorsclosedr2 = 0.0                  |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10451 | R | An alarm appears on DDU screen warning that a PEA was pulled.                      |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10452 | I | The lamp 31H1 (Traction Authorized) turns OFF.                                     |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10453 | R | Traction effort bar graph is indicating no effort on the line voltage module       |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10454 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr2 = 0.0                    |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10455 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr1 = 0.0                    |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10456 | A | After 10 seconds that PEA has been pulled check that:                              |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10457 | R | Read Defined Variable [TT] UBK_EmgcyBrkApld = 1.0                                  |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |

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| 10458 | I | The lamp 44H4 (Emergency Brake Loop) turns ON.                                                                   |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10459 | R | Read Defined Variable [TT] (MPU1)bcu1_tlnb = 0.0                                                                 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10460 | A | Release [TT] (MPU1)lo_ubk_tc1resetpea                                                                            |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10461 | R | The lamp 51H1 turns OFF (door closed and locked).                                                                |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10462 | A | Set Passenger Emergency Alarm Reset Switch (44S6) to "Reset" position.                                           |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10463 | R | PEA alarm signal is reset.                                                                                       |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10464 | A | Move Master Controller Handle (30A1) to "OFF" position.                                                          |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10465 | A | Reset the emergency brake setting the direction switch (S2.2) to "NEUTRAL" and then to "FORWARD" position again. |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10466 | R | Read Defined Variable [TT] UBK_EmgcyBrkApld = 0.0                                                                |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10467 | I | The lamp 44H4 (Emergency Brake Loop) turns OFF.                                                                  |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10468 | R | Read Defined Variable [TT] (MPU1)bcu1_tlnb = 1.0                                                                 |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |
| 10469 | I | The lamp 31H1 (Traction Authorized) turns ON.                                                                    |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10470 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr1 = 1.0                                                  |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |
| 10471 | R | Read Defined Variable [TT] (MPU1)lo_drc_tc1tractionloopr2 = 1.0                                                  |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |
| 10472 | I | Test 08 - Safety Requirement [PRASA-34A-a]                                                                       |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10473 | I | On the beginning the Train shall be stationary.                                                                  |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10474 | A | Force [TT] (MPU1)lo_ets_tc2rstotdrr1 = 1.0                                                                       |  | OK |   | Nokuzola Mdluli - 491469 | Train |

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| 10475 | A | Force [TT] (MPU1)lo_ets_tc2rstotdr2 = 1.0                       |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10476 | R | Check on DDU that the On-board Train Data Recorder is offline   |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10477 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10478 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive2 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10479 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10480 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive2 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10481 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 1.0         |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |
| 10482 | A | Accelerate the Train up to 4km/h.                               |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10483 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 0.0         |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10484 | A | Accelerate the Train up to 10km/h.                              |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10485 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10486 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive2 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10487 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10488 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive2 = 0.0 |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10489 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 0.0         |  | OK | 0 | Nokuzola Mdluli - 491469 | Train |
| 10490 | R | Read Defined Variable [TT] (MPU1)REC_Speed5ThresholdFail = 1.0  |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |
| 10491 | A | Apply brake until the complete stop of the Train.               |  | OK |   | Nokuzola Mdluli - 491469 | Train |
| 10492 | R | Read Defined Variable [TT] (BCU2)LO_SPEED_THRSLD1 = 1.0         |  | OK | 1 | Nokuzola Mdluli - 491469 | Train |

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| 10493 | R | The OTDR is maintained OFF.                                                                                                                                                                                                                                                                         |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10494 | A | Release [TT] (MPU1)lo_ets_tc2rstotdrr1                                                                                                                                                                                                                                                              |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10495 | R | The OTDR is turned ON.                                                                                                                                                                                                                                                                              |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10496 | I | Test 09 - Safety Requirement [PRASA-23-Val-2]                                                                                                                                                                                                                                                       |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10497 | I | On the beginning the Train shall be stationary.                                                                                                                                                                                                                                                     |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10498 | A | Force [TT] (BCU2)LO_SPEED_THRSLD1 = 0.0                                                                                                                                                                                                                                                             |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10499 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus                                                                                                                                                                                                                                              |                                                                                   | OK | 4660 | Nokuzola Mdluli - 491469 | Train |
| 10500 | I | TrainTracer gives a numerical information through the variable "DCU1_TC1_HwIOStatus". In order to check the state of the bits 2 and 8, with the help of a programable calculator (use the computer's one), change the numerical information to a word information and read the state of these bits. |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10501 | R | DCU1_TC1_HwIOStatus.bit2 = 1                                                                                                                                                                                                                                                                        |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10502 | R | DCU1_TC1_HwIOStatus.bit8 = 0                                                                                                                                                                                                                                                                        |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10503 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 0.0                                                                                                                                                                                                                                     |                                                                                   | OK | 0    | Nokuzola Mdluli - 491469 | Train |
| 10504 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive2 = 0.0                                                                                                                                                                                                                                     |                                                                                   | OK | 0    | Nokuzola Mdluli - 491469 | Train |
| 10505 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 0.0                                                                                                                                                                                                                                     |                                                                                   | OK | 0    | Nokuzola Mdluli - 491469 | Train |
| 10506 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive2 = 0.0                                                                                                                                                                                                                                     |                                                                                   | OK | 0    | Nokuzola Mdluli - 491469 | Train |
| 10507 | A | Accelerate the Train up to 10km/h and check the variable "DCU1_TC1_HwIOStatus" as soon as the speed overpasses 5km/h (according to DDU's speed value).                                                                                                                                              |                                                                                   | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10508 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus                                                                                                                                                                                                                                              |                                                                                   | OK | 4656 | Nokuzola Mdluli - 491469 | Train |

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| 10509 | R | DCU1_TC1_HwIOStatus.bit2 = 0                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10510 | R | DCU1_TC1_HwIOStatus.bit8 = 1                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10511 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc1thresholdfive1 = 1.0                                                             |  | OK | 1    | Nokuzola Mdluli - 491469 | Train |
| 10512 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc1thresholdfive2 = 1.0                                                             |  | OK | 1    | Nokuzola Mdluli - 491469 | Train |
| 10513 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive1 = 1.0                                                             |  | OK | 1    | Nokuzola Mdluli - 491469 | Train |
| 10514 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive2 = 1.0                                                             |  | OK | 1    | Nokuzola Mdluli - 491469 | Train |
| 10515 | I | Test 10 - Safety Requirement [PRASA-23-Val-1]                                                                                  |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10516 | R | Read Undefined Variable [TT]<br>(MPU1)DCU1_TC1_HwIOStatus                                                                      |  | OK | 4912 | Nokuzola Mdluli - 491469 | Train |
| 10517 | R | DCU1_TC1_HwIOStatus.bit2 = 1                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10518 | R | DCU1_TC1_HwIOStatus.bit8 = 0                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10519 | A | Release [TT]<br>(BCU2)LO_SPEED_THRSLD1                                                                                         |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10520 | I | Test 11 - Safety Requirement [PRASA-23-Val-4]                                                                                  |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10521 | I | In case it is not possible to go further at the same direction, change cab and perform the tests with the opposite cab active. |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10522 | A | Force [TT] (BCU1)LO_SPEED_THRSLD1 = 1.0                                                                                        |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10523 | A | Force [TT] (BCU2)LO_SPEED_THRSLD1 = 1.0                                                                                        |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10524 | R | Relay 61k3 permanently supplied in all cars.                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10525 | R | DCU1_TC1_HwIOStatus.bit2 = 1                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10526 | R | DCU1_TC1_HwIOStatus.bit8 = 0                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |

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| 10527 | I | TrainTracer gives a numerical information through the variable "DCU1_TC1_DiagData1". In order to check the state of the bits 22 and 23, with the help of a programmable calculator (use the computer's one), change the numerical information to a Dword information and read the state of these bits. |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10528 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_DiagData1                                                                                                                                                                                                                                                  |  | OK | 0    | Nokuzola Mdluli - 491469 | Train |
| 10529 | R | DCU1_TC1_DiagData1.bit22 = 0                                                                                                                                                                                                                                                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10530 | R | DCU1_TC1_DiagData1.bit23 = 0                                                                                                                                                                                                                                                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10531 | A | Accelerate the Train up to 10km/h and check the status of the variables "DCU1_TC1_HwIOStatus" and "DCU1_TC1_DiagData1" when the speed overpasses 5km/h (according to DDU's speed value).                                                                                                               |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10532 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus                                                                                                                                                                                                                                                 |  | OK | 4660 | Nokuzola Mdluli - 491469 | Train |
| 10533 | R | DCU1_TC1_HwIOStatus.bit2 = 1                                                                                                                                                                                                                                                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10534 | R | DCU1_TC1_HwIOStatus.bit8 = 1                                                                                                                                                                                                                                                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10535 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_DiagData1                                                                                                                                                                                                                                                  |  | OK | 0    | Nokuzola Mdluli - 491469 | Train |
| 10536 | R | DCU1_TC1_DiagData1.bit22 = 1                                                                                                                                                                                                                                                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10537 | R | DCU1_TC1_DiagData1.bit23 = 0                                                                                                                                                                                                                                                                           |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10538 | A | Force [TT] (MPU1)OTDR_5kphSpeedFlt = 1.0                                                                                                                                                                                                                                                               |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10539 | R | Check on DDU screen the appearance of an IOS (838) requiring a reparation at the end of the day.                                                                                                                                                                                                       |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10540 | A | Release [TT] (MPU1)OTDR_5kphSpeedFlt                                                                                                                                                                                                                                                                   |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10541 | A | Release [TT] (BCU1)LO_SPEED_THRSLD1                                                                                                                                                                                                                                                                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |
| 10542 | A | Release [TT] (BCU2)LO_SPEED_THRSLD1                                                                                                                                                                                                                                                                    |  | OK |      | Nokuzola Mdluli - 491469 | Train |

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| 10543 | A | Brake the train until its complete stop.                                                         |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10544 | I | Test 12 - Safety Requirement [PRASA-23-Val-5]                                                    |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10545 | A | For the following test use OTDR web portal to force the speed of above 5km/h                     |  | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10546 | R | Relays 61k1 permanently supplied in all cars plus relays 61k2 in TC1 and TC2 cars.               |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10547 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus                                           |                                                                                   | OK | 4660   | Nokuzola Mdluli - 491469 | Train |
| 10548 | R | DCU1_TC1_HwIOStatus.bit2 = 1                                                                     |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10549 | R | DCU1_TC1_HwIOStatus.bit8 = 1                                                                     |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10550 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 1.0                                  |                                                                                   | OK | 1      | Nokuzola Mdluli - 491469 | Train |
| 10551 | R | Read Defined Variable [TT] (MPU1)li_rec_tc2thresholdfive1 = 1.0                                  |                                                                                   | OK | 1      | Nokuzola Mdluli - 491469 | Train |
| 10552 | R | Check on DDU screen the appearance of an IOS (839) requiring a reparation at the end of the day. |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10553 | R | Read Defined Variable [TT] (MPU1)DOR_FDcuSpeedThr = 1.0                                          |                                                                                   | OK | 1      | Nokuzola Mdluli - 491469 | Train |
| 10554 | A | Accelerate the Train up to 10km/h.                                                               |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10555 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_HwIOStatus                                           |                                                                                   | OK | 135732 | Nokuzola Mdluli - 491469 | Train |
| 10556 | R | DCU1_TC1_HwIOStatus.bit2 = 0                                                                     |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10557 | R | DCU1_TC1_HwIOStatus.bit8 = 1                                                                     |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10558 | R | Read Undefined Variable [TT] (MPU1)DCU1_TC1_DiagData1                                            |                                                                                   | OK | 0      | Nokuzola Mdluli - 491469 | Train |
| 10559 | R | DCU1_TC1_DiagData1.bit22 = 0                                                                     |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10560 | R | DCU1_TC1_DiagData1.bit23 = 0                                                                     |                                                                                   | OK |        | Nokuzola Mdluli - 491469 | Train |
| 10561 | R | Read Defined Variable [TT] (MPU1)li_rec_tc1thresholdfive1 = 1.0                                  |                                                                                   | OK | 1      | Nokuzola Mdluli - 491469 | Train |

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| 10562 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive1 = 1.0                                                                                                             |                                                                                     | OK | 1    | Nokuzola Mdluli -<br>491469 | Train |
| 10563 | A | Decelerate the Train untill comes to a complete stop and check the status of the variables "DCU1_TC1_HwIOStatus" and "DCU1_TC1_DiagData1" as soon as the speed is below 5km/h. |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10564 | R | Read Undefined Variable [TT]<br>(MPU1)DCU1_TC1_HwIOStatus                                                                                                                      |                                                                                     | OK | 4912 | Nokuzola Mdluli -<br>491469 | Train |
| 10565 | R | DCU1_TC1_HwIOStatus.bit2 = 0, if 5km/h > train speed > 3km/h.                                                                                                                  |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10566 | R | DCU1_TC1_HwIOStatus.bit2 = 1, if train speed < 3km/h.                                                                                                                          |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10567 | R | DCU1_TC1_HwIOStatus.bit8 = 1                                                                                                                                                   |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10568 | R | Read Undefined Variable [TT]<br>(MPU1)DCU1_TC1_DiagData1                                                                                                                       |                                                                                     | OK | 0    | Nokuzola Mdluli -<br>491469 | Train |
| 10569 | R | DCU1_TC1_DiagData1.bit22 = 0                                                                                                                                                   |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10570 | R | DCU1_TC1_DiagData1.bit23 = 1                                                                                                                                                   |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10571 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc1thresholdfive1 = 0.0                                                                                                             |                                                                                     | OK | 0    | Nokuzola Mdluli -<br>491469 | Train |
| 10572 | R | Read Defined Variable [TT]<br>(MPU1)li_rec_tc2thresholdfive1 = 0.0                                                                                                             |                                                                                     | OK | 0    | Nokuzola Mdluli -<br>491469 | Train |
| 10573 | R | Read Defined Variable [TT]<br>(MPU1)DOR_FDcuSpeedThr = 0.0                                                                                                                     |                                                                                     | OK | 0    | Nokuzola Mdluli -<br>491469 | Train |
| 10574 | I | Rescue Mode and Emergency Disconnection                                                                                                                                        |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10575 | I | BACKUP MODE                                                                                                                                                                    |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10576 | A | Active cab in TC1                                                                                                                                                              |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10577 | A | Put the backup mode switch 27S1 in Backup position                                                                                                                             |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10578 | A | Put the Driving Direction Switch to FORWARD position                                                                                                                           |                                                                                     | OK |      | Nokuzola Mdluli -<br>491469 | Train |
| 10579 | A | Hold pressed the "Master's Deadman Device (30A1.S4)" and move "Master Controller handle (30A1)" to initial                                                                     |  | OK |      | Nokuzola Mdluli -<br>491469 | Train |

|       |   |                                                                                                                                                    |                                                                                   |    |  |                          |       |
|-------|---|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----|--|--------------------------|-------|
|       |   | "Traction" zone position.                                                                                                                          |                                                                                   |    |  |                          |       |
| 10580 | I | Low tractive effort demand is requested.                                                                                                           |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10581 | R | Although the low tractive effort demand has been requested, the Train moves with a standard tractive demand                                        |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10582 | A | Move "Master Controller (30A1)" handle to extreme "Traction" zone position                                                                         |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10583 | R | Verify that there wasn't an impact on train movement and the tractive demand was maintained                                                        |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10584 | A | Release the Master's Deadman Device (30A1.S4) for more than 5 seconds                                                                              |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10585 | R | Train applies emergency brake                                                                                                                      |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10586 | I | The Deadman device must remain pressed to allow traction in backup mode, otherwise the emergency brake loop is opened when the timer relay expire. |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10587 | A | Set the master controller to "OFF" position.                                                                                                       |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10588 | A | Set the Driving Direction Switch to NEUTRAL and then to FORWARD position again                                                                     |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10589 | R | Emergency brake released on Train.                                                                                                                 |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10590 | I | From now on, when operating the master controller don't forget to maintain anyone of the deadman devices pressed.                                  |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10591 | A | Move "Master Controller (30A1)" handle to "Traction" zone position.                                                                                |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10592 | R | Train starts to move.                                                                                                                              |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10593 | A | Keeping the Master's handle within traction zone, check that the train is capable to reach 25km/h.                                                 |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10594 | R | Verify that train reaches, but does not exceed the speed of 25km/h.                                                                                |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                                                                      |                                                                                     |    |  |                          |       |
|-------|---|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|--|--------------------------|-------|
| 10595 | I | On Backup mode, train speed is limited to 25km/h.                                                                                    |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10596 | A | Move "Master Controller (30A1)" handle to initial "Brake" zone position.                                                             |    | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10597 | I | Low brake effort demand is requested.                                                                                                |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10598 | R | Verify that the train starts to brake with a standard brake effort.                                                                  |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10599 | A | Move "Master Controller (30A1)" handle to extreme "Brake" zone position (stop before achieving "Emergency Brake" position).          |    | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10600 | I | High brake effort demand is requested.                                                                                               |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10601 | R | Verify that there wasn't an impact on train movement, and the brake demand was maintained.                                           |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10602 | I | On Backup Mode, brake system considers a single brake demand and disregards master controller handle position within brake zone.     |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10603 | R | Train stops.                                                                                                                         |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10604 | I | BACKUP MODE TC2                                                                                                                      |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10605 | A | Active cab in TC2                                                                                                                    |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10606 | A | Press the automatic start button 20S1 to prepare the train in high voltage                                                           |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10607 | R | After few seconds, the train is prepared in high voltage with HSCBs closed                                                           |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10608 | A | Put the backup mode switch 27S1 in Backup position                                                                                   |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10609 | A | Put the Driving Direction Switch to FORWARD position                                                                                 |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10610 | A | Hold pressed the "Master's Deadman Device (30A1.S4)" and move "Master Controller handle (30A1)" to initial "Traction" zone position. |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10611 | I | Low tractive effort demand is requested.                                                                                             |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                                                                                    |                                                                                     |    |  |                          |       |
|-------|---|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|--|--------------------------|-------|
| 10612 | R | Although the low tractive effort demand has been requested, the Train moves with a standard tractive demand                                        |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10613 | A | Move "Master Controller (30A1)" handle to extreme "Traction" zone position                                                                         |    | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10614 | R | Verify that there wasn't an impact on train movement and the tractive demand was maintained                                                        |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10615 | A | Release the Master's Deadman Device (30A1.S4) for more than 5 seconds                                                                              |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10616 | R | Train applies emergency brake                                                                                                                      |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10617 | I | The Deadman device must remain pressed to allow traction in backup mode, otherwise the emergency brake loop is opened when the timer relay expire. |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10618 | A | Set the master controller to "OFF" position.                                                                                                       |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10619 | A | Set the Driving Direction Switch to NEUTRAL and then to FORWARD position again                                                                     |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10620 | R | Emergency brake released on Train.                                                                                                                 |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10621 | I | From now on, when operating the master controller don't forget to maintain anyone of the deadman devices pressed.                                  |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10622 | A | Move "Master Controller (30A1)" handle to "Traction" zone position.                                                                                |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10623 | R | Train starts to move.                                                                                                                              |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10624 | A | Keeping the Master's handle within traction zone, check that the train is capable to reach 25km/h.                                                 |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10625 | R | Verify that train reaches, but does not exceed the speed of 25km/h.                                                                                |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10626 | I | On Backup mode, train speed is limited to 25km/h.                                                                                                  |                                                                                     | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10627 | A | Move "Master Controller (30A1)" handle to initial "Brake" zone position.                                                                           |  | OK |  | Nokuzola Mdluli - 491469 | Train |

|       |   |                                                                                                                                  |                                                                                   |    |  |                          |       |
|-------|---|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----|--|--------------------------|-------|
| 10628 | I | Low brake effort demand is requested.                                                                                            |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10629 | R | Verify that the train starts to brake with a standard brake effort.                                                              |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10630 | A | Move "Master Controller (30A1)" handle to extreme "Brake" zone position (stop before achieving "Emergency Brake" position).      |  | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10631 | I | High brake effort demand is requested.                                                                                           |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10632 | R | Verify that there wasn't an impact on train movement, and the brake demand was maintained.                                       |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10633 | I | On Backup Mode, brake system considers a single brake demand and disregards master controller handle position within brake zone. |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10634 | R | Train stops.                                                                                                                     |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |
| 10635 | I | End of Test                                                                                                                      |                                                                                   | OK |  | Nokuzola Mdluli - 491469 | Train |



|                                                                               |                                                    |                             |
|-------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------|
| Serial Tests Report<br>TS218 – TFD<br>RTR Train Functional Static Test Report | Document Reference<br>GIB0000006356<br>Version: A0 | Emission date<br>24/04/2024 |
|-------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------|



|                                                                               |                                                    |                             |
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| Serial Tests Report<br>TS218 – TFD<br>RTR Train Functional Static Test Report | Document Reference<br>GIB0000006356<br>Version: A0 | Emission date<br>24/04/2024 |
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## Section 2 – Report summaries

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### 2.2 Results status

| Test Instruction Sheet | Compliant | Incomplete | Non-compliant |
|------------------------|-----------|------------|---------------|
| Dynamic                | X         |            |               |

### 2.3 Tools used

| Function | Tool name | Tool number      | Next Calibration date |
|----------|-----------|------------------|-----------------------|
| Vehicle  | Equipment | Expected version | Version loaded        |
| Train    |           |                  |                       |