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| **X’TRAPOLIS MEGA**  FUNCTIONAL TEST PROCEDURE - NET | | | | | | | | | | | | | | | | | | | | | | | |
| CONFIDENTIAL INFORMATION  This document and the information contemplated therein have to be considered as Confidential Information  pursuant to the provisions of Clause 25 of the MSA, and treated as such. | | | | | | | | | | | | | | | | | | | | | | | |
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| RELEASED | | | |  | | | | | | | Application:  **PRASA** | | | | | | | | | | | | |
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| **Name – Address of testing centre**  ALSTOM TRANSPORT  220, RAIMUNDO PEREIRA DE MAGALHÃES AVENUE  05092-040 BRAZIL | **Name – Customer address**  PRASA South Africa  Johannesburg  South Africa |

# PURPOSE

The purpose of this document is to describe, in detail, the procedure used to conduct a Functional Type Test on the PRASA X’Trapolis Mega network management system. This document contains:

* The Methodology of the tests to be conducted;
* Tools required;
* Acceptance Criteria.

# DOCUMENTS

## Input document

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Reference** | **Revision or date** | **Section Number** |
| SPP-PRASA-TC1-TC2-V3 | DTD0000210082 | Version 3 | 025(COMPUTER NETWORK TRAIN) |
| SPP-PRASA-M1-M2-M3-M4-V3 | DTD0000210083 | Version 3 | 025(COMPUTER NETWORK TRAIN) |
| SPP-PRASA-M1-M2-M3-M4-V3 | DTD0000210083 | Version 3 | 080(MONITORING CIRCUIT BREAKERS) |
| SPP-PRASA-TC1-TC2-V3 | DTD0000210082 | Version 3 | 080(MONITORING CIRCUIT BREAKERS) |
| SPC-PRASA-M1-M2-M3-M4-V1 | DTD0000210392 | Version 1 | 025(COMPUTER NETWORK TRAIN) |
| SPC-PRASA-TC1-TC2-V1 | DTD0000210389 | Version 1 | 025(COMPUTER NETWORK TRAIN) |
| PRASA TCMS ARCHITECTURE | DTD0000210132 | Version A4 | ALL |
| RSAD TRAIN LEVEL | DTD0000210078 | Version A2 | ALL |
| TCMS FUNCTIONAL DESCRIPTION | DTD0000496750 | Version A | ALL |
| RSAD RS\_L2\_TCMS | DTD0000210109 | Version 3 | ALL |

## Distribution list of the test report

This document will be distributed to PRASA for approval before commencement of testing.

# GENERAL TEST CONDITIONS

## General test conditions

The following conditions are important for successful completion of the testing:

* A unit will be a serial complete vehicle consisting of TC1, M4, M1, M2, M3 & TC2;
* One train with the above makeup shall be available;
* All equipment described in this test shall be operational before start the test;
* If any equipment is out of order, the effect of this anomaly on testing shall be carefully evaluated before starting the test.

## Ambient conditions

No specific ambient conditions are mandatory during testing.

## Test location

The test shall be conducted in Alstom Lapa at an appropriated location.

## Test participants

These tests will be completed by the ALSTOM Validation Metier and may be witnessed by the customer or a suitable delegated party.

## Configuration of car under test

Tests will be performed on one fully assembled unit as illustrated below:

|  |  |
| --- | --- |
| **Configuration** | **Illustration** |
| Conf1 | **TC1**-M4-M1-M2-M3-**TC2** |
| Conf2 | **TC1**-M4-M1-M2-M3-**TC2-TC1**-M4-M1-M2-M3-**TC2** |

## Tooling and human resources

### Specific tools

A laptop computer able to connect to the train TCMS. Train Tracer and Putty software will be used for forcing some variables and states.

### Human resources

There is no need of a specific human resource for this test.

## Test duration

The duration of the test might be up to 6 hours.

## Data to be recorded

The following data will be recorded:

Refer to each section below.

# TYPE TEST FUNCTIONAL DESCRIPTION

## Train Network Management System (NET)

| Ethernet equipment detection by MCE1 | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **LV Ready Mode** | | |
| **Key switch initial state in lead unit TC1:** | | | **ON Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  Train Tracer UTM and Putty software. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU: 0.0.4.1**  **DDU: 1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| MPU preparation | | | | | |
|  | Clear the MCE1 event stack (from Putty terminal or Train Tracer) | The MCE1 event stack is cleared | | OK |  |
| Equipment preparation | | | | | |
|  | Power OFF all the Ethernet equipment EXCEPT MCE1 and DDU1. | On DDU1, check that all equipment icons below are greyed:   * BRIOM; * TBCU; * MCE2; * DDU2; * EDU1; * EDU2; * ACU; * TOI; * DCU; * NBX; * MBX; * EVC; * CPM; * HVAC. | | NOK | Equipment is not greyed, but they are red.  The netbox equipment stay powered on. Because COM (Train-Ground Communication) function isn’t implemented.  MBX not yet defined  Procedure : EDU equipment don't exist in NET function |
|  | Check the events stack with Train Tracer UTM or on the Driver DDU. | A fault on the DDU of “NET\_F<Eqt>Cip” is logged in the event stack for each equipment (<Eqt>), except for MCE1 and DDU1. | | NYT | None fault on TrainTracer, because it isn't yet implemented |
| Equipment power on in TC1 car | | | | | |
|  | Power on the EDU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | EDU doesn't exist in NET function |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM7 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM8 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the ACU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TOI1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Equipment power on in M4 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Equipment power on in M1 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the NBX and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | TCMS: The netbox equipment stays in green colour. Waiting a feedback from TCMS support. |
| Equipment power on in M2 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the MBX and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NYT | The MBX equipment isn't yet defined |
|  | Power on the EVC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | Procedure : We cannot tested it on DDU |
|  | Power on the CPM and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | Procedure : CPM doesn't exist anymore |
| Equipment power on in M3 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Equipment power on in TC2 car | | | | | |
|  | Power on the EDU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | Procedure : No EDU equipment in NET function |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM7 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM8 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the ACU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TOI2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the MCE2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DDU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU1 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Ethernet check up | | | | | |
|  | Connect putty on the MPU1  Run the command obsterm.elf  Run the command:  « cip connection list » | Check the R.L.D. column :  It must be 0 (zero) for each Ethernet equipment provided by Alstom (MCE, TBCU, BRIOMs) | | NOK | Procedure: What is RSAD requirement? I don't understand functional test, |
|  | Run the command « exit » to quit obsterm |  | |  |  |

| Ethernet equipment detection by MCE2 | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **LV Ready Mode** | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **ON Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  Train Tracer UTM and Putty software. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:** **0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| MPU preparation | | | | | |
|  | Clear the MCE2 event stack (from Putty terminal or Train Tracer) | The MCE2 event stack is cleared | | OK |  |
| Equipment preparation | | | | | |
|  | Power OFF all the Ethernet equipment EXCEPT MCE2 and DDU2. | On DDU2, check that all equipment icons below are greyed:   * BRIOM; * TBCU; * MCE1; * DDU1; * EDU1; * EDU2; * ACU; * TOI; * DCU; * NBX; * MBX; * EVC; * CPM; * HVAC. | | NOK | Procedure: Equipment is not greyed, but they are red.  The netbox equipment stay powered on.  MBX not yet defined  Procedure : EDU equipment don't exist in NET function |
|  | Check the events stack with Train Tracer UTM or on the Driver DDU. | A fault on the DDU of “NET\_F<Eqt>Cip” is logged in the event stack for each equipment (<Eqt>), except for MCE2 and DDU2. | | NYT | None fault on TrainTracer, because it isn't yet implemented |
| Equipment power on in TC2 car | | | | | |
|  | Power on the EDU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | EDU doesn't exist in NET function |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM7 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM8 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the ACU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TOI2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Equipment power on in M4 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Equipment power on in M1 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the NBX and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | TCMS: The netbox equipment stays in green colour. |
| Equipment power on in M2 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the MBX and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NYT | The MBX equipment isn't yet defined |
|  | Power on the EVC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | Procedure : We cannot tested it on DDU |
|  | Power on the CPM and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | Procedure : CPM doesn't exist anymore |
| Equipment power on in M3 car | | | | | |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TBCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Equipment power on in TC1 car | | | | | |
|  | Power on the EDU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | NOK | Procedure : No EDU equipment in NET function |
|  | Power on the BRIOM1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM7 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the BRIOM8 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the ACU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the TOI1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the HVAC and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the MCE1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DDU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU1 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU2 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU3 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU4 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU5 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
|  | Power on the DCU6 and wait its complete initialization. | On DDU2 check the equipment icon turn to green colour.  The respective fault (NET\_F<Eqt>Cip) disappears. | | OK | 1) OK  2) NYT. Fault function isn’t implemented. |
| Ethernet check up | | | | | |
|  | Connect putty on the MCE2  Run the command obsterm.elf  Run the command:  « cip connection list » | Check the R.L.D. column :  It must be 0 (zero) for each Ethernet equipment provided by Alstom (MCE, TBCU, BRIOMs) | | NOK | Procedure: What is RSAD requirement? I don't understand functional test, |
|  | Run the command « exit » to quit obsterm |  | |  |  |

| Setting the date and time from DDU | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **As in Section 3.5 above.** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **As described above** | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  No specific tool. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:****1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| Setting date and time from DDU with a cabin selected | | | | | |
|  | Activate the TC1 cabin. | TC1 cabin activated. | | OK |  |
|  | From the DDU1 maintenance screen, go to “Date and time” screen and modify the date and time. | The date and time displayed on the top of the screen is coherent with the new date and time. | | NOK | Procedure : We cannot change the date and time on DDU |
| Setting date and time from DDU with no cabin selected | | | | | |
|  | Disable/deactivate the TC1 cabin | TC1 cabin deactivated. | | OK |  |
|  | From the DDU1 maintenance screen, go to “Date and time” screen and modify the date and time. | This function is not possible. | | NOK | Procedure :We cannot change the date and time on DDU |

| Software version verification | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **As described above** | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  No specific tool. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| Software version of each equipment in TC1 car | | | | | |
|  | Note the software version of MPU1 (MCE1).  **We don’t how to do these tests. We don't know where we can see the software version (DDU? TrainTracer?)** | Software version noted. | | NYT | TCMS – DDU : This function isn't implemented, |
|  | Note the software version of BCU1 (MCE1). | Software version noted. | | NYT |  |
|  | Note the software version of DDU1. | Software version noted. | | NYT |  |
|  | Note the software version of EDU1. | Software version noted. | | NYT |  |
|  | Note the software version of ACU1. | Software version noted. | | NYT |  |
|  | Note the software version of TOI1. | Software version noted. | | NYT |  |
|  | Note the software version of HVAC-TC1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU1-TC1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU2-TC1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU3-TC1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU4-TC1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU5-TC1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU6-TC1. | Software version noted. | | NYT |  |
| Software version of each equipment in M1 car | | | | | |
|  | Note the software version of TBCU1. | Software version noted. | | NYT |  |
|  | Note the software version of HVAC-M1. | Software version noted. | | NYT |  |
|  | Note the software version of NBX. | Software version noted. | | NYT |  |
|  | Note the software version of DCU1-M1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU2-M1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU3-M1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU4-M1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU5-M1. | Software version noted. | | NYT |  |
|  | Note the software version of DCU6-M1. | Software version noted. | | NYT |  |
| Software version of each equipment in M2 car | | | | | |
|  | Note the software version of TBCU2. | Software version noted. | | NYT |  |
|  | Note the software version of HVAC-M2. | Software version noted. | | NYT |  |
|  | Note the software version of MBX. | Software version noted. | | NYT |  |
|  | Note the software version of EVC. | Software version noted. | | NYT |  |
|  | Note the software version of CPM. | Software version noted. | | NYT |  |
|  | Note the software version of DCU1-M2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU2-M2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU3-M2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU4-M2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU5-M2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU6-M2. | Software version noted. | | NYT |  |
| Software version of each equipment in M3 car | | | | | |
|  | Note the software version of TBCU3. | Software version noted. | | NYT |  |
|  | Note the software version of HVAC-M3. | Software version noted. | | NYT |  |
|  | Note the software version of DCU1-M3. | Software version noted. | | NYT |  |
|  | Note the software version of DCU2-M3. | Software version noted. | | NYT |  |
|  | Note the software version of DCU3-M3. | Software version noted. | | NYT |  |
|  | Note the software version of DCU4-M3. | Software version noted. | | NYT |  |
|  | Note the software version of DCU5-M3. | Software version noted. | | NYT |  |
|  | Note the software version of DCU6-M3. | Software version noted. | | NYT |  |
| Software version of each equipment in M4 car | | | | | |
|  | Note the software version of TBCU4. | Software version noted. | | NYT |  |
|  | Note the software version of HVAC-M4. | Software version noted. | | NYT |  |
|  | Note the software version of DCU1-M4. | Software version noted. | | NYT |  |
|  | Note the software version of DCU2-M4. | Software version noted. | | NYT |  |
|  | Note the software version of DCU3-M4. | Software version noted. | | NYT |  |
|  | Note the software version of DCU4-M4. | Software version noted. | | NYT |  |
|  | Note the software version of DCU5-M4. | Software version noted. | | NYT |  |
|  | Note the software version of DCU6-M4. | Software version noted. | | NYT |  |
| Software version of each equipment in TC2 car | | | | | |
|  | Note the software version of MPU2 (MCE2). | Software version noted. | | NYT |  |
|  | Note the software version of BCU2 (MCE2). | Software version noted. | | NYT |  |
|  | Note the software version of DDU2. | Software version noted. | | NYT |  |
|  | Note the software version of EDU2. | Software version noted. | | NYT |  |
|  | Note the software version of ACU2. | Software version noted. | | NYT |  |
|  | Note the software version of TOI2. | Software version noted. | | NYT |  |
|  | Note the software version of OTDR. | Software version noted. | | NYT |  |
|  | Note the software version of HVAC-TC2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU1-TC2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU2-TC2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU3-TC2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU4-TC2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU5-TC2. | Software version noted. | | NYT |  |
|  | Note the software version of DCU6-TC2. | Software version noted. | | NYT |  |

| Ethernet network and IP confirmation | | | |  | | |
| --- | --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | | |
| **Category:** | | | **Functional Type Test** | | | |
| **Test type:** | | | **Static** | | | |
| **Train configuration:** | | | **Conf1** | | | |
| **HV needed:** | | | **No** | | | |
| **Initial train operating mode:** | | | **As described above** | | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | | |
| **SPECIFIC TOOLS:**  Last revision of “DTD0000210198\_A1\_TCMS\_Addressing\_Plan.xls” document to check the IP address of the equipment.  Tips: You can use software tools like “Advanced IP Scanner” to automatize the ping operation. | | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | | |
| **Step** | **Action** | Check | | | OK/NOK | **Comment** |
| PING the equipment of the car TC1 | | | | | | |
|  | PING the equipment in TC1 | MPU1  BCU1  DDU1  ACU1  HVAC-TC1  TOI1  DCU1-TC1  DCU2-TC1  DCU3-TC1  DCU4-TC1  DCU5-TC1  DCU6-TC1  TRS1  CRS1-TC1  CRS2-TC1  CRS3-TC1  CRS4-TC1  BRIOM1-TC1  BRIOM2-TC1  BRIOM3-TC1  BRIOM4-TC1  BRIOM5-TC1  BRIOM6-TC1  BRIOM7-TC1  BRIOM8-TC1  EDU1 | | | NOK | There isn't EDU1 equipment  IP: 10.EEE.EEE.2  IP: 10.EEE.EEE.3  IP: 10.EEE.EEE.19  IP: 10.EEE.EEE.23  IP: 10.EEE.EEE.27  IP: 10.EEE.EEE.37  IP: 10.EEE.EEE.43  IP: 10.EEE.EEE.44  IP: 10.EEE.EEE.45  IP: 10.EEE.EEE.46  IP: 10.EEE.EEE.47  IP: 10.EEE.EEE.48  IP: 10.EEE.EEE.89  IP: 10.EEE.EEE.95  IP: 10.EEE.EEE.96  IP: 10.EEE.EEE.97  IP: 10.EEE.EEE.98  IP: 10.EEE.EEE.128  IP: 10.EEE.EEE.129  IP: 10.EEE.EEE.130  IP: 10.EEE.EEE.131  IP: 10.EEE.EEE.132  IP: 10.EEE.EEE.133  IP: 10.EEE.EEE.134  IP: 10.EEE.EEE.135  IP: 10.EEE.EEE.xxx |
| PING the equipment of the car M1 | | | | | | |
|  | PING the equipment in M1 | TBCU1  HVAC-M1  DCU1-M1  DCU2-M1  DCU3-M1  DCU4-M1  DCU5-M1  DCU6-M1  CRS1-M1  CRS2-M1  NBX  BRIOM1-M1  BRIOM2-M1 | | | OK | IP: 10.EEE.EEE.9  IP: 10.EEE.EEE.29  IP: 10.EEE.EEE.55  IP: 10.EEE.EEE.56  IP: 10.EEE.EEE.57  IP: 10.EEE.EEE.58  IP: 10.EEE.EEE.59  IP: 10.EEE.EEE.60  IP: 10.EEE.EEE.103  IP: 10.EEE.EEE.104  IP: 10.EEE.EEE.123  IP: 10.EEE.EEE.144  IP: 10.EEE.EEE.145 |
| PING the equipment of the car M2 | | | | | | |
|  | PING the equipment in M2 | TBCU2  HVAC-M2  DCU1-M2  DCU2-M2  DCU3-M2  DCU4-M2  DCU5-M2  DCU6-M2  CRS1-M2  CRS2-M2  CRS3-M2  BRIOM1-M2  BRIOM2-M2  MBX  EVC  CPM | | | NYT | There isn't the CRS3 in M2 on Laborame  IP: 10.EEE.EEE.12  IP: 10.EEE.EEE.30  IP: 10.EEE.EEE.61  IP: 10.EEE.EEE.62  IP: 10.EEE.EEE.63  IP: 10.EEE.EEE.64  IP: 10.EEE.EEE.65  IP: 10.EEE.EEE.66  IP: 10.EEE.EEE.105  IP: 10.EEE.EEE.106  IP: 10.EEE.EEE.xxx  IP: 10.EEE.EEE.146  IP: 10.EEE.EEE.147  IP: 10.EEE.EEE.xxx  IP: 10.EEE.EEE.xxx  IP: 10.EEE.EEE.xxx |
| PING the equipment of the car M3 | | | | | | |
|  | PING the equipment in M3 | TBCU3  HVAC-M3  DCU1-M3  DCU2-M3  DCU3-M3  DCU4-M3  DCU5-M3  DCU6-M3  CRS1-M3  CRS2-M3  BRIOM1-M3  BRIOM2-M3 | | | OK | IP: 10.EEE.EEE.15  IP: 10.EEE.EEE.31  IP: 10.EEE.EEE.67  IP: 10.EEE.EEE.68  IP: 10.EEE.EEE.69  IP: 10.EEE.EEE.70  IP: 10.EEE.EEE.71  IP: 10.EEE.EEE.72  IP: 10.EEE.EEE.107  IP: 10.EEE.EEE.108  IP: 10.EEE.EEE.148  IP: 10.EEE.EEE.149 |
| PING the equipment of the car M4 | | | | | | |
|  | PING the equipment in M4 | TBCU4  HVAC-M4  DCU1-M4  DCU2-M4  DCU3-M4  DCU4-M4  DCU5-M4  DCU6-M4  CRS1-M4  CRS2-M4  BRIOM1-M4  BRIOM2-M4 | | | OK | IP: 10.EEE.EEE.18  IP: 10.EEE.EEE.32  IP: 10.EEE.EEE.73  IP: 10.EEE.EEE.74  IP: 10.EEE.EEE.75  IP: 10.EEE.EEE.76  IP: 10.EEE.EEE.77  IP: 10.EEE.EEE.78  IP: 10.EEE.EEE.109  IP: 10.EEE.EEE.110  IP: 10.EEE.EEE.150  IP: 10.EEE.EEE.151 |
| PING the equipment of the car TC2 | | | | | | |
|  | PING the equipment in TC2 | MPU2  BCU2  DDU2  ACU2  HVAC-TC2  OTDR  TOI2  DCU1-TC2  DCU2-TC2  DCU3-TC2  DCU4-TC2  DCU5-TC2  DCU6-TC2  TRS2  CRS1-TC2  CRS2-TC2  CRS3-TC2  CRS4-TC2  BRIOM1-TC2  BRIOM2-TC2  BRIOM3-TC2  BRIOM4-TC2  BRIOM5-TC2  BRIOM6-TC2  BRIOM7-TC2  BRIOM8-TC2  EDU2 | | | NYT | There isn’t EDU2 equipment  IP: 10.EEE.EEE.5  IP: 10.EEE.EEE.6  IP: 10.EEE.EEE.20  IP: 10.EEE.EEE.24  IP: 10.EEE.EEE.28  IP: 10.EEE.EEE.34  IP: 10.EEE.EEE.38  IP: 10.EEE.EEE.49  IP: 10.EEE.EEE.50  IP: 10.EEE.EEE.51  IP: 10.EEE.EEE.52  IP: 10.EEE.EEE.53  IP: 10.EEE.EEE.54  IP: 10.EEE.EEE.90  IP: 10.EEE.EEE.99  IP: 10.EEE.EEE.100  IP: 10.EEE.EEE.101  IP: 10.EEE.EEE.102  IP: 10.EEE.EEE.136  IP: 10.EEE.EEE.137  IP: 10.EEE.EEE.138  IP: 10.EEE.EEE.139  IP: 10.EEE.EEE.140  IP: 10.EEE.EEE.141  IP: 10.EEE.EEE.142  IP: 10.EEE.EEE.143  IP: 10.EEE.EEE.xxx |

| Train network | | | |  | | |
| --- | --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | | |
| **Category:** | | | **Functional Type Test** | | | |
| **Test type:** | | | **Static** | | | |
| **Train configuration:** | | | **Conf1** | | | |
| **HV needed:** | | | **No** | | | |
| **Initial train operating mode:** | | | **As described above** | | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | | |
| **PRELIMINARY CHECKS:**  Before start the test, the whole Ethernet network shall be communicating without any fault. | | | | | | |
| **SPECIFIC TOOLS:**  No particular tools. | | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | | |
| **Step** | **Action** | Check | | | OK/NOK | **Comment** |
| TRS link aggregation monitoring | | | | | | |
|  | On TC1 car, disconnect the Ethernet cable from the terminal Eth3 of TRS1. | The fault “NET\_FTrainNet” appears on DDU screen. | | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal Eth3 of TRS1. | The fault “NET\_FTrainNet” disappears on DDU screen. | | | NYT | The faults aren't implemented |
|  | On TC1 car, disconnect the Ethernet cable from the terminal Eth1 of TRS1. | The fault “NET\_FTrainNet” appears on DDU screen. | | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal Eth1 of TRS1. | The fault “NET\_FTrainNet” disappears on DDU screen. | | | NYT | The faults aren't implemented |
|  | On TC1 car, disconnect both Ethernet cables from the terminals Eth1 and Eth3 of TRS1. | The fault “NET\_FTrainNet” appears on DDU screen. | | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cables to the respective terminals of TRS1. | The fault “NET\_FTrainNet” disappears on DDU screen. | | | NYT | The faults aren't implemented |
| Loss of at least one TRS | | | | | | |
|  | Turn off the TRS1. | The following faults appear on DDU screen:  “NET\_FTrainNet”  “NET\_FConsistNet”  Check on “Network Screen” that the icon of TRS1 became red. | | | NYT | The faults aren't implemented |
|  | Turn on the TRS1. | The faults disappear on DDU screen.  Check on “Network Screen” that the icon of TRS1 turns to green again. | | | NYT | The faults aren't implemented |
|  | Turn off the TRS2. | The following faults appear on DDU screen:  “NET\_FTrainNet”  “NET\_FConsistNet”  Check on “Network Screen” that the icon of TRS2 became red. | | | NYT | The faults aren't implemented |
|  | Turn on the TRS2. | The faults disappear on DDU screen.  Check on “Network Screen” that the icon of TRS2 turns to green again. | | | NYT | The faults aren't implemented |

| Consist network | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **As described above** | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  Before start the test, the whole Ethernet network shall be communicating without any fault. | | | | | |
| **SPECIFIC TOOLS:**  No particular tools. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| Ethernet ring status | | | | | |
|  | On TC1 car, disconnect the Ethernet cable from the terminal Eth5 of TRS1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the TRS1 and CRS1 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal Eth5 of TRS1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC1 car, disconnect the Ethernet cable from the terminal Eth4 of TRS1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the TRS1 and CRS2-TC1 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal Eth4 of TRS1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC1 car, disconnect the Ethernet cable from the terminal X3 of CRS2-TC1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS2 and CRS3 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS2-TC1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC1 car, disconnect the Ethernet cable from the terminal X3 of CRS3-TC1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS3 and CRS4 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS3-TC1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC1 car, disconnect the Ethernet cable from the terminal X3 of CRS4-TC1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS4-TC1 and CRS1-M4 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS4-TC1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M4 car, disconnect the Ethernet cable from the terminal X3 of CRS1-M4. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS1-M4 and CRS2-M4 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS1-M4. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M4 car, disconnect the Ethernet cable from the terminal X3 of CRS2-M4. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS2-M4 and CRS2-M2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS2-M4. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M2 car, disconnect the Ethernet cable from the terminal X3 of CRS2-M2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS2-M2 and CRS1-M2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS2-M2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M2 car, disconnect the Ethernet cable from the terminal X3 of CRS1-M2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS1-M2 and CRS3-M2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS1-M2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M2 car, disconnect the Ethernet cable from the terminal X3 of CRS3-M2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS3-M2 and CRS1-TC2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS3-M2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC2 car, disconnect the Ethernet cable from the terminal X3 of CRS1-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS1-TC2 and TRS2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS1-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC2 car, disconnect the Ethernet cable from the terminal Eth4 of TRS2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the TRS2 and CRS2-TC2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal Eth4 of TRS2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC2 car, disconnect the Ethernet cable from the terminal X3 of CRS2-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS2-TC2 and CRS3-TC2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS2-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC2 car, disconnect the Ethernet cable from the terminal X3 of CRS3-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS3-TC2 and CRS4-TC2 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS3-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On TC2 car, disconnect the Ethernet cable from the terminal X3 of CRS4-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS4-TC2 and CRS1-M3 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS4-TC2. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M3 car, disconnect the Ethernet cable from the terminal X3 of CRS1-M3. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS1-M3 and CRS2-M3 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS1-M3. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M3 car, disconnect the Ethernet cable from the terminal X3 of CRS2-M3. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS2-M3 and CRS2-M1 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS2-M3. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M1 car, disconnect the Ethernet cable from the terminal X3 of CRS2-M1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS2-M1 and CRS1-M1 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS2-M1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
|  | On M1 car, disconnect the Ethernet cable from the terminal X3 of CRS1-M1. | The fault “NET\_<XrsY><XrsZ>RingFault” appears on DDU screen where <XrsY><XrsZ> correspond to the CRS1-M1 and CRS1-TC1 ID.  Check that all the devices are still communicating normally. | | NYT | The faults aren't implemented |
|  | Reconnect the Ethernet cable to the terminal X3 of CRS1-M1. | The fault “NET\_<XrsY><XrsZ>RingFault” disappears on DDU screen. | | NYT | The faults aren't implemented |
| Loss of at least one CRS | | | | | |
|  | Turn off the CRS1-TC1. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: DCU1, DCU4, DCU5, TOI and ACU.  The icon CRS1-TC1 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS1-TC1. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS2-TC1. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM1, BRIOM3, BRIOM5, BRIOM7, EDU1 and MCE1.  The icon CRS2-TC1 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS2-TC1. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS3-TC1. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM2, BRIOM4, BRIOM6, BRIOM8 and DDU1.  The icon CRS3-TC1 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS3-TC1. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS4-TC1. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: DCU2, DCU3, DCU6 and HVAC.  The icon CRS4-TC1 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS4-TC1. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS1-M4. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM1, DCU1, DCU4, DCU5 and TBCU4.  The icon CRS1-M4 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS1-M4. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS2-M4. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM2, DCU2, DCU3, DCU6 and HVAC.  The icon CRS2-M4 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS2-M4. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS1-M1. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM1, DCU1, DCU4, DCU5 and TBCU1.  The icon CRS1-M1 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS1-M1. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS2-M1. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM2, DCU2, DCU3, DCU6, HVAC and NBX.  The icon CRS2-M1 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS2-M1. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS1-M2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM1, DCU1, DCU4, DCU5 and TBCU2.  The icon CRS1-M2 turns to red.  Note: The EVC icon is still green because it is fed also by CRS3-M2. | | NYT | The faults aren't implemented |
|  | Turn on the CRS1-M2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS2-M2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM2, DCU2, DCU3, DCU6, HVAC and MBX.  The icon CRS2-M2 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS2-M2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS3-M2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: CPM.  The icon CRS3-M2 turns to red.  Note: The EVC icon is still green because it is also fed by CRS1-M2. | | NYT | The faults aren't implemented |
|  | Turn on the CRS3-M2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS1-M3. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM1, DCU1, DCU4, DCU5 and TBCU3.  The icon CRS1-M3 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS1-M3. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS2-M3. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM2, DCU2, DCU3, DCU6 and HVAC.  The icon CRS2-M3 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS2-M3. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS1-TC2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: DCU1, DCU4, DCU5, TOI2 and ACU2.  The icon CRS1-TC2 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS1-TC2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS2-TC2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM1, BRIOM3, BRIOM5, BRIOM7, EDU2 and MCE2.  The icon CRS2-TC2 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS2-TC2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS3-TC2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: BRIOM2, BRIOM4, BRIOM6, BRIOM8 and DDU2.  The icon CRS3-TC2 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS3-TC2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |
|  | Turn off the CRS4-TC2. | The fault “NET\_FConsistNet” appears on DDU screen.  Check on “Network Screen” that the following equipment connected to this CRS is disabled: DCU2, DCU3, DCU6 and HVAC.  The icon CRS4-TC2 turns to red. | | NYT | The faults aren't implemented |
|  | Turn on the CRS4-TC2. | The fault “NET\_FConsistNet” disappears on DDU screen.  Check on “Network Screen” that the equipment which was disabled became green again. | | NYT | The faults aren't implemented |

| Maintenance mode | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure. | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action. | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **As described above** | | |
| **Key switch initial state in lead unit TC1:** | | | **ON Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  Last revision of “DTD0000210198\_A1\_TCMS\_Addressing\_Plan.xls” document to check the IP address of the equipment.  Tips: You can use software tools like “Advanced IP Scanner” to automatize the ping operation.  A laptop with the maintenance software interface installed. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| Maintenance mode | | | | | |
|  | Plug a laptop with the maintenance software installed on the terminal Eth1 from CRS3-TC1. | Check that the laptop has maintenance access to the train network. | | OK |  |
|  | Check the IP address provided supplies you with access. | The IP address provided should be one of the spare IPs reserved to this function according to the document DTD0000210198. | | OK | IP: 10.EEE.EEE.xxx |

| MCE redundancy in static situation | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure. | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action. | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **As described above** | | |
| **Key switch initial state in lead unit TC1:** | | | **ON Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  No particular tools. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU: 0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| MCE redundancy test | | | | | |
|  | Check which MCE is master. | Only one MCE is master. | | OK | How to do it? |
|  | Switch OFF the MCE master. | The opposite MCE becomes the master. | | OK |  |
|  | Switch ON the MCE and wait its complete initialization. | The opposite MCE is still the master. | | OK |  |
|  | Switch OFF the MCE master. | The opposite MCE becomes the master. | | OK |  |
|  | Switch ON the MCE and wait its complete initialization. | The opposite MCE is still the master. | | OK |  |

| Monitoring network circuit breaker | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure. | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action. | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Static** | | |
| **Train configuration:** | | | **Conf1** | | |
| **HV needed:** | | | **No** | | |
| **Initial train operating mode:** | | | **As described above** | | |
| **Key switch initial state in lead unit TC1:** | | | **ON Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **OFF Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Any Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  Train Tracer. | | | | | |
| **SAFETY PRECAUTIONS:**  No particular safety precaution. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU: 0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| Circuit breaker tripped in TC1 car | | | | | |
|  | Set off the CB40Q1 of the MCE1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | Procedure: they seem it is an integration test. Moreover the circuit breaker is implemented in DDK function. Then those variables don’t exist. |
|  | Normalize the CB40Q1 of the MCE1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q2 of the BRIOM1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q2 of the BRIOM1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q4 of the BRIOM3. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q4 of the BRIOM3. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q6 of the BRIOM5. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q6 of the BRIOM5. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q8 of the BRIOM7. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q8 of the BRIOM7. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q11 of the CRS2-TC1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q11 of the CRS2-TC1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q13 of the CRS4-TC1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q13 of the CRS4-TC1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q15 of the TRS1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q15 of the TRS1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q3 of the BRIOM2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q3 of the BRIOM2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q5 of the BRIOM4. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q5 of the BRIOM4. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q7 of the BRIOM6. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q7 of the BRIOM6. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q9 of the BRIOM8. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q9 of the BRIOM8. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q10 of the CRS1-TC1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q10 of the CRS1-TC1. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q12 of the CRS3-TC1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q12 of the CRS3-TC1. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q14 of the TBR-TC1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q14 of the TBR-TC1. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q16 of the DDU1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q16 of the DDU1. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
| Circuit breaker tripped in M4 car | | | | | |
|  | Set off the CB25Q6 of the BRIOM1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q6 of the BRIOM1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q11 of the CRS2-M4. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q11 of the CRS2-M4. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q7 of the BRIOM2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q7 of the BRIOM2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q10 of the CRS1-M4. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q10 of the CRS1-M4. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q14 of the TBR-M4. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q14 of the TBR-M4. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
| Circuit breaker tripped in M1 car | | | | | |
|  | Set off the CB25Q6 of the BRIOM1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q6 of the BRIOM1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q11 of the CRS2-M1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q11 of the CRS2-M1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q7 of the BRIOM2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q7 of the BRIOM2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q10 of the CRS1-M1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q10 of the CRS1-M1. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q14 of the TBR-M1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q14 of the TBR-M1. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
| Circuit breaker tripped in M2 car | | | | | |
|  | Set off the CB25Q6 of the BRIOM1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q6 of the BRIOM1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q11 of the CRS2-M2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q11 of the CRS2-M2. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q7 of the BRIOM2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q7 of the BRIOM2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q10 of the CRS1-M2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q10 of the CRS1-M2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q13 of the CRS3-M2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q13 of the CRS3-M2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q14 of the TBR-M2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q14 of the TBR-M2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
| Circuit breaker tripped in M3 car | | | | | |
|  | Set off the CB25Q6 of the BRIOM1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q6 of the BRIOM1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q11 of the CRS2-M3. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q11 of the CRS2-M3. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q7 of the BRIOM2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q7 of the BRIOM2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q10 of the CRS1-M3. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q10 of the CRS1-M3. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q14 of the TBR-M3. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q14 of the TBR-M3. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
| Circuit breaker tripped in TC2 car | | | | | |
|  | Set off the CB40Q1 of the MCE2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB40Q1 of the MCE2. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q2 of the BRIOM1. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q2 of the BRIOM1. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q4 of the BRIOM3. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q4 of the BRIOM3. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q6 of the BRIOM5. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q6 of the BRIOM5. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q8 of the BRIOM7. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q8 of the BRIOM7. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q11 of the CRS2-TC2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q11 of the CRS2-TC2. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q13 of the CRS4-TC2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q13 of the CRS4-TC2. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q15 of the TRS2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q15 of the TRS2. | The following inputs become false again:  LI\_CBTCMS1R1  LI\_CBTCMS1R2 | | NOK | See previous NOK |
|  | Set off the CB25Q3 of the BRIOM2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q3 of the BRIOM2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q5 of the BRIOM4. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q5 of the BRIOM4. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q7 of the BRIOM6. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q7 of the BRIOM6. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q9 of the BRIOM8. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q9 of the BRIOM8. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q10 of the CRS1-TC2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q10 of the CRS1-TC2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q12 of the CRS3-TC2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q12 of the CRS3-TC2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q14 of the TBR-TC2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q14 of the TBR-TC2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Set off the CB25Q16 of the DDU2. | Check with the Train Tracer that the following input indications become true:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |
|  | Normalize the CB25Q16 of the DDU2. | The following inputs become false again:  LI\_CBTCMS2R1  LI\_CBTCMS2R2 | | NOK | See previous NOK |

| Monitoring network with coupled units | | |  | | |
| --- | --- | --- | --- | --- | --- |
| **PRE-NECESSARY CARRIED OUT PROCEDURES:**  No pre-necessary carried out procedure. | | | | | |
| **TRAIN INITIAL CONFIGURATION:**  No particular preliminary action. | | | | | |
| **Category:** | | | **Functional Type Test** | | |
| **Test type:** | | | **Dynamic** | | |
| **Train configuration:** | | | **Conf2** | | |
| **HV needed:** | | | **Yes** | | |
| **Initial train operating mode:** | | | **Prepared** | | |
| **Key switch initial state in lead unit TC1:** | | | **OFF Position** | | |
| **Key switch initial state in lead unit TC2:** | | | **ON Position** | | |
| **Mode selector initial state in lead unit TC1:** | | | **Any Mode** | | |
| **Mode selector initial state in lead unit TC2:** | | | **Coupling Mode** | | |
| **PRELIMINARY CHECKS:**  No particular preliminary check. | | | | | |
| **SPECIFIC TOOLS:**  No particular tools. | | | | | |
| **SAFETY PRECAUTIONS:**  The respective safety precautions must be carried on during train coupling process. | | | | | |
| **CONFIGURATION SOFTWARE/HARDWARE:**  **MPU:0.0.4.1**  **DDU:1.0fdraft**  **Equipment required:** | | | | | |
| **Step** | **Action** | Check | | OK/NOK | **Comment** |
| Network communication with coupled units | | | | | |
|  | Couple two train units and check the network integrity. | Train units coupled and the communication between them is fine.  Check on DDU the new train configuration with two train units. | | NYT | Laborame : We cannot coupled two trains in Laborame |
|  | On TC2 coupled car, disconnect the Ethernet cable from the terminal Eth0 of TRS2. | The fault “NET\_FTrainNet” appears on DDU screen, but the communication still working between the trains. | | NYT | Laborame : We cannot coupled two trains in Laborame |
|  | Reconnect the Ethernet cable in the terminal Eth0 of TRS2. | The fault “NET\_FTrainNet” disappears on DDU screen. | | NYT | Laborame : We cannot coupled two trains in Laborame |
|  | Disconnect the Ethernet cable from the terminal Eth2 of TRS2. | The fault “NET\_FTrainNet” appears on DDU screen, but the communication still working between the trains. | | NYT | Laborame : We cannot coupled two trains in Laborame |
|  | Reconnect the Ethernet cable in the terminal Eth2 of TRS2. | The fault “NET\_FTrainNet” disappears on DDU screen. | | NYT | Laborame : We cannot coupled two trains in Laborame |
|  | Turn off the TRS2. | The following faults appear on DDU screen:  “NET\_FTrainNet”  “NET\_FConsistNet”  Check on “Network Screen” that the icon of TRS2 became red. | | NYT | Laborame : We cannot coupled two trains in Laborame |
|  | Turn on the TRS2. | The faults disappear on DDU screen.  Check on “Network Screen” that the icon of TRS2 turns to green again. | | NYT | Laborame : We cannot coupled two trains in Laborame |

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| **Data to check** | **Tolerance criteria** | **Unit** |
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