PR S 47117

Inspection and Testing of Signalling: Standard Forms

Version 2.3

Date in Force: 8 May 2023

Approved by:	Professional Head Signalling and Control Systems Engineering System Integrity	Authorised by:	Engineering Technical Publications Manager System Integrity

Disclaimer

This document was prepared for use by Sydney Trains and its intended recipient. The information in this document is protected by copyright and no part of this document may be reproduced, altered, stored or transmitted by any person without the prior consent of Sydney Trains.

All Sydney Trains engineering documents are periodically reviewed and new editions are published. Between editions, amendments may also be issued. It is the document user's sole responsibility to ensure that document they are viewing is the current version, including any amendments that may have been issued. Errors or omissions in this document should be reported to sydneytrainsstandards@transport.nsw.gov.au.

Sydney Trains makes no warranties, express or implied, that compliance with the contents of this document shall be sufficient to ensure safe systems or work or operation.

Document control

Version	Date	Author	Summary of change
1.0	26 August 2019	E Pace	New document base on old RailCorp document SPG 07117
2.0	6 January 2020	E Pace	Added Control Systems Test Cases
2.1	31 May 2021	C Darmenia	Add 2 new test certificates for B/W twisted pair cables
2.2	15 July 2021	Ian Maydew/C Darmenia	Updated with the inclusion of axle counter requirements
2.3	8 May 2023		Updated titles in Section 5. Added two new forms.

Summary of changes from previous version

Summary of change	Section
Updated title "Signal and Sign Sighting Forms" section	5
Added two forms PR S 47117 FM251 & PR S 47117 FM252	5

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 2 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

Table of Contents

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 3 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

1 Introduction

The common forms in Section 2 and the Signals forms in Section 3, 4 and 5 are available for download as word documents from the Sydney Trains intranet and internet websites. The Control Systems forms listed in Section 6 are available for download as word documents from the Sydney Trains intranet only.

2 Plans and Work Packages

- *PR S 47117 FM001 Interface Coordination Plan*

- *PR S 47117 FM002 Inspection and Test Plan*
    - Part 1 – Inspection and Testing Strategy
        - Inspection and Testing Strategy Details
        - Quality Assurance-Strategy
        - Signalling Inspection and Testing Strategy Check List
        - Control Systems Inspection and Testing Strategy Plan
        - Control Systems - Preliminary Project Hazard Analysis Check List
    - Part 2 – Inspection and Testing Outline Plan
    - Part 3 – Inspection and Testing Detailed Plan

- *PR S 47117 FM003 Installation Work Package*
    - Authorisation of Installation Work Package
    - Register of Working Documents
        - Register of Construction Copies of Working Drawings
        - Register of Signal Sighting Forms
        - Register of Detailed Site Survey Plans
        - Register of Site Installation Drawings
        - Register of Equipment and Operating Manuals
        - Register of Test Copies of Working Drawings
        - Register of Control Systems Release Package
    - Register of Quality Assurance Documentation
        - Register of Quality Assurance Documents
        - Register of Installation Work Package Documents for Version Control
    - Type Approvals
    - Accreditation/Competency Certificates
    - Pre-Installation Test Certificates
        - Register of Pre-Installation Test Certificates
    - Installation Inspection and Testing Log
        - Installation Inspection and Testing Log
        - Installation Inspection and Testing Report
    - Register of Installation Work Instructions
        - Register of Installation Work Instructions

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023
Page 4 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

- – Prepared Installation Work Instructions
  - o Installation Work Instruction
  - o Work Not Completed
- – Issued Work Instructions
- – Completed Work Instructions
- – Certification
  - o Installation Inspection and Testing Status Certificate
  - o Installation Work Instruction Uncompleted Tasks
  - o Approved Variations to Inspection and Testing Plan
  - o Approved Variations to Standards or Procedures
- – Transmittals
- *PR S 47117 FM004 Commissioning Work Package*
  - – Commissioning Work Package
  - – Section 1 – Preparation
    - o Authorisation of Commissioning Work Package
    - o Safeworking Forms & Permits
      - ▪ Safeworking Forms & Permits
    - o Weekly Notices and Circulars
    - o Scope of Works
    - o Commissioning Program
    - o Commissioning Notices
    - o Prepared Pre-Commissioning Work Instructions
      - ▪ Pre-Commissioning Work Instruction
    - o Prepared Commissioning Work Instructions
      - ▪ Commissioning Work Instruction
    - o Prepared Post-Commissioning Work Instructions
      - ▪ Post-Commissioning Work Instruction
    - o Minutes of Pre-Commissioning Meeting
  - – Section 2 – Implementation
    - o Register of Pre-Commissioning Work Instructions
      - ▪ Register of Pre-Commissioning Work Instructions
    - o Register of Commissioning Work Instructions
      - ▪ Register of Commissioning Work Instructions
    - o Register of Post-Commissioning Work Instructions
      - ▪ Register of Post-Commissioning Work Instructions
    - o Completed Pre-Commissioning Work Instructions
    - o Completed Commissioning Work Instructions
    - o Completed Post-Commissioning Work Instructions
  - – Section 3 - Evaluation

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 5 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

- o Commissioning Certificate
  - Commissioning Certificate Part 1
  - Commissioning Certificate - Part 2
- o Control Systems Certificate of Work
  - Certificate of Work
- o Commissioning Log
  - Commissioning Log
- o Attendance Book
- o Report on Post-Commissioning Meeting
- o Transmittals
  - Memorandum of Document Exchange

- *PR S 47117 FM005 Handover Documentation Package*
  - Handover Documentation Package
  - Updated Asset Register
  - Interim Maintenance Copies of Design Documents
  - Spare Equipment
  - Equipment Manuals
  - Certificate of Practical Completion
  - Commissioning Work Package
  - Copies of Inspection and Test Records
  - Maintenance Issue of Design Documents
  - Certificate of Acceptance
    - o Certificate of Acceptance

- *PR S 47117 FM006 Minor Work Package*
  - Section 1: Package Authorisation
    - o Interface Coordination Plan
    - o Interface Identification
    - o Site Integrity Agreements & Site Assessment
    - o Signalling Access Arrangements
    - o Operational Issues
    - o Regional Signalling Representative
    - o Training Requirements
    - o Configuration Control
    - o Type Approvals, Trials or Waivers
    - o Commissioning the Works – Requirements
    - o Pre-Existing Safety Issues
    - o Signalling Maintenance Responsibility
    - o Maintenance Documentation
    - o Documentation & Handover Schedule

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 6 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

- o Handover Documentation Package

- o Checklist from the Inspection and Testing Specifications

- o Interface Management Plan – Signalling and Train Control Systems

- o Interface Management Plan – Others

- o Interface Coordination Plan Agreement

- Section 2: Inspection & Test Plan

- o Inspection and Testing Plan – Minor Signalling Works

- Section 3: Detailed Inspection & Test Plan and Quality Assurance Strategy

- o Minor Works. Installation – Inspection – Testing/Commissioning Detailed Plan & Signalling Safeworking Requirements

- o Minor Works. Installation – Inspection – Testing Quality Assurance-Strategy

- Section 4: Work Instructions

- o Minor Works - Work Instruction

- Section 5: Minor Works Log

- o Minor Signalling Work - Installation, Inspection, Testing and Commissioning Log

- Section 6: QA Records

- Section 7: Commissioning Certificate

- o Minor Works Commissioning Certificate Part 1

- o Minor Works Commissioning Certificate Part 2

- Section 8: Safeworking Forms and Permits

- o Safeworking Forms and Permits

- o Memorandum of Document Exchange

- Section 9: Site Photographs

3 Signal Test Certificates

- *PR S 47117 FM010 TC 1A Colour Light Signal Test Certificate*

- *PR S 47117 FM011 TC 1B Double Light Signal LED Test Certificate*

- *PR S 47117 FM012 TC 1C Single Light Signal LED Test Certificate*

- *PR S 47117 FM020 TC 2A Cable Insulation Test Certificate*

- *PR S 47117 FM021 TC 2B Cable Insulation Test Certificate*

- *PR S 47117 FM022 TC 2C Cable Insulation Test Certificate*

- *PR S 47117 FM023 TC 2D Cable Insulation Test Certificate*

- *PR S 47117 FM024 TC 2E Cable Insulation Test Certificate*

- *PR S 47117 FM030 TC 4 Train Stop Test Certificate*

- *PR S 47117 FM031 TC 5 Pre-Site Test Certificate*

- *Refer to PR S 40030 for TC 6A to TC 6C Point Operating Test Certificates*

- *PR S 47117 FM032 TC 7 Location Power Supply Test Certificate*

- *PR S 47117 FM033 TC 8 Motor Generator Test Certificate*

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 7 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

- *PR S 47117 FM034 TC 9 Circuit Breaker Test Certificate*

- *PR S 47117 FM035 TC 10 Level Crossing Test Certificate*

- *PR S 47117 FM040 TC 27 Ready for Test Certificate*

- *PR S 47117 FM041 ITF 12 Issues Found While Testing*

4 Signals Certification Inspection and Testing Checklists

- *PR S 47117 FM050 ITF 13/0 Certification Inspection and Test Summary Checklist*

- *PR S 47117 FM051 ITF 13/1A Checklist for Colour Light Signal*

- *PR S 47117 FM052 ITF 13/1B Checklist for LED Colour Light Signal*

- *PR S 47117 FM053 ITF 13/2 Checklist for Points*

- *PR S 47117 FM054 ITF 13/3 Checklist for Ground Frames/Electric Releasing Switches*

- *PR S 47117 FM055 ITF 13/4 Checklist for Trainstop*

- *PR S 47117 FM056 ITF 13/5 Checklist for Track Circuit*

- *PR S 47117 FM057 ITF 13/6 Checklist for Level Crossing*

- *PR S 47117 FM058 ITF 13/7 Checklist for Power Supplies*

- *PR S 47117 FM059 ITF 13/10 Checklist for Timer Relays/Units*

- *PR S 47117 FM060 ITF 13/11 Checklist for Cables*

- *PR S 47117 FM061 ITF 13/15 Checklist for Telemetry/Panel Processor*

- *PR S 47117 FM062 ITF 13/16 Checklist for Control Console/Indicator Diagram*

- *PR S 47117 FM063 ITF 13/17 Checklist for Location*

- *PR S 47117 FM064 ITF 13/18 Checklist for Computer Based Interlockings*

- *PR S 47117 FM065 ITF 13/20 Checklist for Aspect Sequence*

- *PR S 47117 FM066 ITF 13/21 Checklist for Axle Counters*

- *PR S 47117 FM100 ITF 14 Calibration Record*

5 Signal and Sign Sighting Forms

- *PR S 47117 FM200 Signal Sighting Checklist*

- *PR S 47117 FM201 Signal Sighting Form Single Light Signal*

- *PR S 47117 FM202 Signal Sighting Form Double Light Signal*

- *PR S 47117 FM203 Signal Sighting Form Dwarf Signal*

- *PR S 47117 FM204 Signal Sighting Form Guards Indicator*

- *PR S 47117 FM250 Level Crossing Site Inspection Forms*

- *PR S 47117 FM251 Signage Sighting Form*

- *PR S 47117 FM252 Markerboard Sighting Checklist*

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 8 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

6   Control Systems Forms

- *PR S 47117 FM510 V1.0 Test Case: NIC Failover Test for RCS on Auto Mode*

- *PR S 47117 FM511 V1.0 Test Case: NIC Failover Test for Workstation*

- *PR S 47117 FM514 V1.0 Test Case: Network Device 1 (Switch/Router/Firewall) Total Failure Test*

- *PR S 47117 FM515 V1.0 Test Case: Network Device 2 (Switch/Router) Total Failure Test*

- *PR S 47117 FM530 V1.0 Test Case: Comms Links Checks*

- *PR S 47117 FM531 V1.0 Test Case: PCS and KVMA Monitoring Checks*

- *PR S 47117 FM532 V1.0 Test Case: Optical Isolator Board Visual Inspection*

- *PR S 47117 FM533 V1.0 Test Case: Optical Isolator Board Soak Test*

- *PR S 47117 FM534 V1.0 Test Case: RTU Power and Operation Tests*

- *PR S 47117 FM535 V1.0 Test Case: RTU IO Cable and Backplane Testing*

- *PR S 47117 FM536 V1.0 RTU Backplane Test Certificate*

- *PR S 47117 FM540 V1.0 Test Case: User Interface Function*

- *PR S 47117 FM541 V1.0 Test Case: Audio Control Box Functionality*

- *PR S 47117 FM550 V1.0 Test Case: Power Redundancy Checks*

- *PR S 47117 FM551 V1.0 Test Case: Computer Network Connectivity*

- *PR S 47117 FM552 V1.0 Test Case: SOE Configuration*

- *PR S 47117 FM560 V1.0 Test Case: Thin Client User Interface Function*

- *PR S 47117 FM561 V1.0 Test Case: HPDM Configuration Check*

- *PR S 47117 FM562 V1.0 Test Case: RHMI Monitor Configuration Check*

- *PR S 47117 FM570 V1.0 Pre-Installation Procedure*

- *PR S 47117 FM571 V1.0 Logger Upgrade Procedure Using Scripts*

- *PR S 47117 FM572 V1.0 RCS Upgrade Procedure without Restart using Scripts*

- *PR S 47117 FM573 V1.0 RCS Upgrade Procedure with Restart using Scripts*

- *PR S 47117 FM574 V1.0 Main Workstation Upgrade Procedure without Restart using Scripts*

- *PR S 47117 FM575 V1.0 Main Workstation Upgrade Procedure with Restart using Scripts*

- *PR S 47117 FM576 V1.0 Test Case: Control Workstation Sanity Test After Upgrade*

- *PR S 47117 FM578 V1.0 TVS Workstation Upgrade Procedure with Restart Using Scripts*

- *PR S 47117 FM579 V1.0 Maintenance/Remote/Overview Workstation Upgrade Procedure without Restart Using Scripts*

- *PR S 47117 FM580 V1.0 Maintenance/Remote/Overview Workstation Upgrade Procedure with Restart Using Scripts*

- *PR S 47117 FM581 V1.0 View Only Workstation MWS Sanity Test after Upgrade*

- *PR S 47117 FM582 V1.0 Test Case: View Only Workstation Report Only WS Sanity Test after Upgrade*

- *PR S 47117 FM590 V1.0 Test Case: System Health Snap-on Check*

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 9 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed

Sydney Trains – Engineering System Integrity
Engineering Procedure – Signalling and Control Systems
Inspection and Testing of Signalling: Standard Forms

PR S 47117

- *PR S 47117 FM591 V1.0 Test Case: ESS Health Check*

- *PR S 47117 FM592 V1.0 Test Case: OSS Health Check*

- *PR S 47117 FM593 V1.0 ESS\OSS SQL Server Backup Procedure*

- *PR S 47117 FM594 V1.0 ESS\OSS SQL Server Upgrade Procedure*

- *PR S 47117 FM595 V1.0 ESS\OSS WEB Server Upgrade Procedure*

- *PR S 47117 FM596 V1.0 Test Case: Map Verification on ESS/OSS MapViewer*

- *PR S 47117 FM599 V1.0 Test Case: Map: Verification on ESS ReplayViewer*

- *PR S 47117 FM600 V1.0 Test Case: OSS NET Reports and Timetable Loading*

- *PR S 47117 FM601 V1.0 Test Case: OSS External Client Connections*

- *PR S 47117 FM602 V1.0 Test Case: SPI Connection to OSS*

- *PR S 47117 FM603 V1.0 Test Case: OSS Monitor Active Trips*

OFFICIAL

© Sydney Trains
Version 2.3
Date in Force: 8 May 2023

Page 10 of 10
Prepared using: TP ESI 003 V2.0
Uncontrolled when printed