

Sydney Trains



Engineering System Integrity
Engineering Standard
Signalling and Control Systems

ST S 43028

Signal Signage Certifier

Version 1.0

Date in Force: 13 December 2022

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Document control

Version	Date	Author/Prin. Eng.	Summary of change
1.0	13 December 2022	David Mulley	First issue as a Sydney Trains document

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Table of Contents

1	Signal Signage Certifier	4
1.1	Elements.....	4
1.2	Performance Criteria	4
1.3	Range of Variables	5
1.4	Knowledge and Skill Requirements	7
1.5	Competency Requirements	7
1.6	Evidence Guide	8
1.7	Assessment Context.....	8

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1 Signal Signage Certifier

This Authorisation entitles signal signage certifier personnel to work in a live signalling environment as outlined below.

Carry out inspection, testing and certification of new or altered:

- Signal sign location against Signalling Plan.
- Markerboard sign location against Signalling Plan and Site Certification Form.
- Markerboard and signal sign compliance with approved installation drawings.
- Markerboard and signal sign position relative to the track in relation to structure gauge and transit space requirements.
- Markerboard and signal sign in relation to sighting records.
- Where markerboards and signal signs are outside the structure gauge, the work may include checking compliance with qualified surveyors.

Terms shown as (bold) are detailed and explained in Section 1.3 Range of Variables.

1.1 Elements		1.2 Performance Criteria	
ST S 43028.1	Prepare to undertake signage inspection, test and certification	ST S 43028.1.1	All necessary information , including configuration documents, manuals and work instructions are obtained
		ST S 43028.1.2	All necessary resources , including competent staff, tools and test equipment are obtained
		ST S 43028.1.3	All necessary planning and reporting arrangements for track access and worksite protection ('work on track') are complied with
ST S 43028.2	Complete signage certification	ST S 43028.2.1	Installation of new equipment is completed in accordance with design and signage type
		ST S 43028.2.2	Signage is inspected for compliance with design, specifications, and standards
		ST S 43028.2.3	Any anomalies are investigated and resolved or reported for later resolution
ST S 43028.3	Record signage details and measurement values.	ST S 43028.3.1	Critical measurement values are recorded

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		ST S 43028.3.2	Test equipment details are recorded
ST S 43028.4	Finalise certification signage	ST S 43028.4.1	Signage is left in safe working condition
		ST S 43028.4.2	Outstanding or unresolved issues are documented and reported for further action in accordance with organisational procedures
		ST S 43028.4.3	Certification documents (Signalling Plan, test sheet and site certification form) are completed, signed and submitted

1.3 Range of Variables

Signal Signage includes:

- Physical ETCS Level 2 Marker Boards.
- ETCS Level 1 and 2 Signs (Begin/End ATP, Begin/End Cab Signalling, etc.).
- Signal Signs including but not limited to:
 - Block Post Signs
 - Catch Points Signs
 - Derail Signs
 - Electric Train STOP Signs
 - Points Clearance Markers
 - End Signalled Authority Signs
 - Landmark Signs
 - Level Crossing Signs
 - Tonnage Signs
 - Absolute Signal Signs
 - Limit of Shunt Signs
 - Signal Designation Signs (outer home, distant, repeater, indicator, co-acting)
 - Signal Identification Signs
 - Single light signal signs
 - Yard Limits Boards.

Resources include:

- Personnel
- Measuring Tools
- Simulated or trackside environment.

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Test Records includes:

- Test certificates
- Inspection and test forms and checklists
- Test copies of designs.

Information includes:

- Approved signal design
- Markerboard sighting forms
- Signal sighting forms
- Relevant standards and specification including Organisational Procedures below
- Working drawings
- Standards drawings.

Organisational Procedures include:

- TfNSW standards and Sydney Trains procedures – including those listed below

Relevant standards and instructions include:

- *T HR SC 07111 ST Mandatory Requirements for Inspection, Testing and Commissioning of New or Altered Signalling*
- *SPG 0706 Installation of Trackside Equipment*
- *MN S 40000 Signalling Safeworking Procedures (Manual J)*
- *RailSafe Network Rules - NSG Signals and Signs*
- *Sydney Trains TAO and OEM equipment manuals.*

Unexpected Events include:

- Accidental interference with the existing signage
- Anomaly found in existing signage
- Anomaly found in signage under inspection.

Work Activities may include:

- Identify the equipment and tests to be performed as per the Inspection and Test Plan.
- Identify the interfaces between the system under test and the existing signalling system.
- Identify the latest approved version of designs, working drawings, detail site surveys to conduct inspection and testing.
- Establish and maintain effective communication with all people involved in inspection and testing activities – these can include testing teams, maintenance, design, operations and other disciplines.

Working Activities specifically exclude:

- Booking signalling equipment out of, or into, operational service.
- Inspection and certification of signage for other disciplines, for example speed signs, track survey signs.

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1.4 Knowledge and Skill Requirements

The following underlying knowledge elements are requirements for the achievement of this competence:

- Read and follow work instructions.
- Read and interpret signalling documentation.
- Recognise and identify signalling equipment and components.
- Use test equipment correctly.
- Test recording and documentation.
- Use appropriate communication protocol.
- Reporting and contact relationships.
- Identify and measure to structure gauge.

1.5 Competency Requirements

The following knowledge, competency and entry requirements shall be demonstrated as a pre-requisite to the awarding of this competency:

Pre-Requisite Entry Requirements

- Electrical or Electronic Trades Certificate AQF L3
or
- Relevant Tertiary Qualification (including Signalling or Control Systems as specified in MN S 41412).

And:

- Demonstrated experience in signalling testing

Entry Authorisation Requirement

- Work Safely in Live Signal Location (ASI07) and listed in RG S 41415

Training requirements

- Signal Principles 1 (EJ05)
- Signalling Inspection and Testing (ST46).

Technical Competency requirements

- Be assessed as competent in Competency Standard *ST S 43028 Signal Signage Certifier* using a Competency Assessment Tool endorsed by Sydney Trains and approved by the assessing Technically Assured Authorisation (TAO) under their Competency Management System.

Behavioural Competency requirements

- Adhering to Principles and Values.
- Planning and Organising.
- Following Instructions and Procedures.
- Adapting and Responding to Change.
- Coping with Pressures and Setbacks.

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1.6 Evidence Guide

This provides essential advice for the assessment of the unit and must be read in conjunction with the performance criteria and range statement. Each element and associated performance criteria must be demonstrated on at least two occasions.

Before the critical aspects of evidence are considered, all pre-requisites must be met.

Candidates demonstrate their knowledge and understanding of signal signage by showing:

- Documentary evidence of appropriate training and qualifications held.
- Responses to questioning by the competence assessor.

Candidates demonstrate their competence to carry out inspection and testing of signal signage by providing:

- Log book showing experience in the relevant inspection and testing works.
- Supervisor's report on testing and inspection performance.
- Practical demonstration of the required range of inspection and testing activities in a real or simulated installation.

Critical aspects of evidence required to demonstrate competency in this unit

Demonstrated consistent performance across a representative range of contexts from the prescribed list below.

Conduct inspection of signal signage, including the following:

- Ensuring that technical and operational specifications are complied with.
- Completing relevant inspection and test records and documentation.
- Communicating and assisting with unplanned events.

1.7 Assessment Context

This unit should be assessed as it relates to normal workplace practice using procedures, information and resources typical of a workplace.

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible, replicate the workplace.