

Engineering Procedure  
Signalling and Control Systems

PR S 43011

# Assist in and/or Perform Inspection and Testing of Signalling Works (SCP11, 12 & 13)

Version 1.0

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Procedure

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## Document control

Version	Date	Author/ Prin. Eng.	Summary of change
1.0	17 September 2018	Mark Albrecht	First issue as Sydney Trains document

## Summary of changes from previous version

Summary of change	Section

## Table of Contents

<b>1</b>	<b>PR S 43011A Assist in and/or Perform Inspection and Testing of Signalling Works (SCP11A, SCP12A &amp; SCP13A)</b> .....	<b>4</b>
1.1	Item .....	4
1.2	Details .....	4
<b>2</b>	<b>PR S 43011B – Behavioural Competency Assessment (SCP11B, SCP12B, SCP13B)</b> .....	<b>8</b>
<b>3</b>	<b>Behavioural Competencies</b> .....	<b>8</b>
<b>4</b>	<b>Competency Rating Scale</b> .....	<b>9</b>
<b>5</b>	<b>Assessment Methodology</b> .....	<b>10</b>
<b>6</b>	<b>Behavioural Assessment Process</b> .....	<b>10</b>
6.1	Process Stages .....	10
<b>7</b>	<b>Behavioural Competency Assessment Report</b> .....	<b>13</b>

# 1 PR S 43011A Assist in and/or Perform Inspection and Testing of Signalling Works (SCP11A, SCP12A & SCP13A)

This unit covers the assessment procedures and the current requirements for the competency of personnel to Assist in Inspection and Testing, Perform Inspection and Circuit Testing, and Perform Circuit Function Testing of Signalling Works.

1.1 Item	1.2 Details
<p><b>SCP11</b> - Assist in Testing and Inspection of Signalling Works: (ST S 43011)</p> <ol style="list-style-type: none"> <li>1. <b>Prerequisites</b> Entry Requirements Training Course Competency</li> <li>2. <b>Competency Requirements</b></li> <li>3. <b>Training Requirements</b></li> <li>4. <b>Licensing Requirements</b></li> </ol>	<p>Candidate will have satisfied the following prerequisites, or approved equivalents:</p> <ul style="list-style-type: none"> <li>• Rail Industry Safety Induction card (RISI)</li> <li>• WHS General Construction Induction Training Card (GIT Card).</li> <li>• Rail Safety Worker Category 2 Health, Qualification.</li> <li>• Design Checking Competencies in Signal Design, <b>or</b> <ul style="list-style-type: none"> <li>○ IRSE Licence 1.3.150 – Signalling Test Assistant</li> </ul> </li> <li>• Nil</li> <li>• Sydney Trains Engineering Standard Signalling &amp; Control Systems Competency Standard ST S 43002 Work Safely in a live Signal Location</li> <li>• UEENEEN111A Install and maintain trackside Signal and train protection</li> </ul> <p>Be assessed as competent in Sydney Trains Engineering Standard Signalling &amp; Control Systems Competency Standard ST S 43011 Assist in Inspection and Testing of Signalling Works using Sydney Trains Engineering Manual Competency Assessment Tool PR S 43011 Assist in Inspection and Testing of Signalling Works.</p> <ul style="list-style-type: none"> <li>• TfNSW EI40 Signalling Safeworking Procedures (Certificate of Attendance)</li> <li>• TfNSW ST46 Signalling Inspection and Testing (Certificate of Attendance).</li> </ul> <p>Assistant Tester competency requires a Sydney Trains Authorisation as described in MN S 41412 <i>process for Signalling Personnel – Authorisations &amp; Licensing Section 6.1</i></p>
<p><b>SCP12</b> - Perform Inspection and Circuit Testing of Signalling Works: (ST S 43012)</p>	<p>Candidate will have satisfied the following prerequisites, or approved equivalents:</p> <ul style="list-style-type: none"> <li>• Rail Industry Safety Induction card (RISI)</li> </ul>

<p><b>1. Prerequisites</b>                  Entry Requirements                  Training Course                  Competency</p> <p><b>2. Competency Requirements</b></p> <p><b>3. Training Requirements</b></p> <p><b>4. Licensing Requirements</b></p>	<ul style="list-style-type: none"> <li>• WHS General Construction Induction Training Card (GIT Card)</li> <li>• Rail Safety Worker Category 1 health</li> <li>• Electrical Trades Certificate or Relevant Tertiary Qualification, <b>and</b></li> <li>• Minimum of Signal electrical Work Group Leader (or supervisor equivalent), <b>or</b> <ul style="list-style-type: none"> <li>○ Demonstrated experience as an Assistant Tester and either Signal Electrical Installer Authorisations, or Design Checking Competencies in Signal Design, <b>or</b></li> <li>○ Demonstrated experience of the use of IRSE Licence 1.3.155 – Signalling Verification Tester.</li> </ul> </li> <li>• TfNSW EI40 Signalling Safeworking Procedures</li> <li>• TfNSW ST46 Signalling Inspection and Testing</li> <li>• TfNSW EJ11 Signalling Equipment and Electrical Installation Standards and Practices for Sydney Trains</li> <li>• UEENEEN104A Test Copper rail Signalling cable</li> </ul> <p>Be assessed as competent in Sydney Trains Engineering Standard Signalling &amp; Control Systems Competency Standard ST S 43012 Perform Inspection and Circuit Testing of Signalling Works using Sydney Trains Engineering Manual Competency Assessment Tool MN S 43012 Perform Inspection and Circuit Testing of Signalling Works.</p> <ul style="list-style-type: none"> <li>• TfNSW EJ05 Signal Principles 1</li> </ul> <p>Circuit Tester competency requires a Sydney Trains Authorisation as described in MN S 41412 <i>process for Signalling Personnel – Authorisations &amp; Licensing Section 6.1.</i></p>
<p><b>SCP13 - Perform Circuit Function Testing of Signalling Works: (ST S 43013)</b></p> <p><b>1. Prerequisites</b>                  Entry Requirements                  Training Courses                  Competency</p>	<p>Candidate will have satisfied the following prerequisites, or approved equivalents:</p> <ul style="list-style-type: none"> <li>• Rail Industry Safety Induction card (RISI)</li> <li>• WHS General Construction Induction Training Card (GIT Card).</li> <li>• Rail Safety Worker Category 1 Health</li> </ul>

<p><b>2. Competency Requirements</b></p> <p><b>3. Training Requirements</b></p> <p><b>4. Licensing Requirements</b></p>	<ul style="list-style-type: none"> <li>• Electrical Trades Certificate or Relevant Tertiary Qualification, and</li> <li>• Demonstrated experience in either Circuit Tester Authorisation of IRSE License 1.3.170 – Signalling Functional Tester</li> <li>• TfNSW EI40 Signalling Safeworking Procedures</li> <li>• TfNSW ST46 Signalling Inspection and Testing</li> <li>• TfNSW EJ11 Electrical Installation Standards and Practices for Sydney Trains Signalling Equipment</li> <li>• Nil</li> </ul> <p>Be assessed as competent in Sydney Trains Engineering Standard Signalling &amp; Control Systems Competency Standard ST S 430113 Perform Circuit Function Testing of Signalling Works using Sydney Trains Engineering Manual Competency Assessment Tool MN S 430013 Perform Circuit Function Testing of Signalling Works.</p> <ul style="list-style-type: none"> <li>• TfNSW EJ06 Signal Principles 2</li> </ul> <p>Circuit Function Tester competency requires a Sydney Trains Authorisation as described in <i>MN S 41412 Process for Signalling Personnel – Authorisations &amp; Licensing Section 6.1.</i></p>
<p><b>5. Tools and equipment</b></p>	<p>Candidate presents for the assessment fully equipped to carry out the required level of either</p> <ul style="list-style-type: none"> <li>• Assist in Inspection and Testing,</li> <li>• Perform Inspection and Circuit Testing,</li> <li>• Perform Circuit Function Testing of Signalling Works.</li> </ul>
<p><b>6. Competence Assessor</b></p>	<p>Shall have the requisite technical and assessment competencies</p>
<p><b>7. Assessment Outcomes</b></p>	<p>Based on the evidence provided in the documentary materials provided, the desktop assessment and the hands-on assessment, the candidate is assessed to be</p> <ul style="list-style-type: none"> <li>• Not ready for assessment The candidate was not adequately prepared for the assessment, lacks prerequisites or requires significant additional training and experience.</li> </ul>

	<p>These deficits should be addressed before reapplying for assessment.</p> <ul style="list-style-type: none"> <li>• Not yet competent The candidate lacks one or more elements to be assessed competent. The candidate may be reassessed on the missing elements, as soon as they can be prepared.</li> <li>• Not yet competent to work independently, but competent to work under supervision The candidate has demonstrated all prerequisites and skills at a basic level, but has not shown a sufficient level of mastery to be able to perform effectively without guidance. Unrestricted competence can be granted on the basis of a satisfactory supervisor's report, following a period of work under supervision.</li> <li>• Competent The candidate has satisfied all requirements.</li> </ul>
<p><b>8. Candidate debriefing</b></p>	<p>Assessor debriefs the candidate on the outcomes of the assessment, the elements (if any) in which they were found to be not yet competent, and their options for reassessment after completing further development, or appealing the outcome.</p>
<p><b>9. Reporting &amp; records</b></p>	<p>Assessor notifies candidate and candidate's supervisor by forwarding to each a copy of the Competency Assessment Record Sheet which is part of the Assessment Tool and, if the candidate was assessed competent, a copy of the Record Sheet to the Principal Engineer Signalling Integrity for updating of RG S 41415.</p>
<p><b>10. Reference Documents</b></p>	<ul style="list-style-type: none"> <li>• ST S 43011 Competency Standard       <ul style="list-style-type: none"> <li>○ Assist in Testing and Inspection of Signalling Works</li> </ul> </li> <li>• ST S 43012 Competency Standard       <ul style="list-style-type: none"> <li>○ Perform Inspection and Circuit Testing of Signalling Works</li> </ul> </li> <li>• ST S 43013 Competency Standard       <ul style="list-style-type: none"> <li>○ Perform Circuit Function Testing of Signalling Works</li> </ul> </li> <li>• MN S 43011 Competency Assessment Tool – Assist in Testing and Inspection of Signalling Works (with appropriate question set)</li> <li>• MN S 43012 Competency Assessment Tool – Perform Inspection and Circuit Testing of</li> </ul>

	Signalling Works (with appropriate question set) <ul style="list-style-type: none"> <li>• MN S 43013 Competency Assessment Tool – Perform Circuit Function Testing of Signalling Works (with appropriate question set)</li> <li>• SPG0711 – Inspection and Testing of Signalling</li> <li>• Sydney Trains Health Assessment Categories of Rail</li> <li>• Safety Workers Version 1.3</li> </ul>
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## 2 PR S 43011B – Behavioural Competency Assessment (SCP11B, SCP12B, SCP13B)

The behavioural competency assessment process is to be used in conjunction with the Technical competency assessment process for Assist in Inspection and Testing, Perform Inspection and Circuit Testing, and Perform Circuit Function Testing of Signalling Works PR S 43011A.

## 3 Behavioural Competencies

The behavioural competency requirements for ST S 43011 are as follows:

Competency	Descriptor	Benchmarked Score
Adhering to Principles and Values  SCP11, 12 & 13	Upholds ethics and values; Demonstrates integrity; Promotes and defends equal opportunities, builds diverse teams; Encourages organisational and individual responsibility towards the community and the environment.	3 or higher
Planning and Organising  SCP11, 12 & 13	Sets clearly defined objectives; Plans activities and projects well in advance and takes account of possible changing circumstances; Identifies and organises resources needed to accomplish tasks; Monitors performance against deadlines and milestones.	3 or higher
Following Instructions and Procedures  SCP11, 12 & 13	Appropriately follows instructions from others without unnecessarily challenging authority; Follows procedures and policies; Keeps to schedules; Arrives punctually for work and meetings; Demonstrates commitment to the organisation; Complies with legal obligations and safety requirements of the role.	3 or higher
Adapting and Responding to Change  SCP11 only	Adapts to changing circumstances; Accepts interpersonal style to suit different people or situations; Shows respect and sensitivity towards cultural and religious differences; Deals with ambiguity, making positive use of the opportunities it presents	3 or higher

Coping with Pressures and Setbacks  SCP11, 12 & 13	Works productively in a high pressure environment; Keeps emotions under control during difficult situations; Balances the demands of a work life and personal life; Maintains a positive outlook at work; Handles criticism well and learns from it.	3 or higher
Working with People  SCP12 & 13 only	Demonstrates an interest in understanding of others; Adapts to the team and builds team spirit; Recognises and rewards the contribution of others; Listens, consults others and communicates proactively; Supports and cares for others; Develops and openly communicates self-insight such as an awareness of own strengths and weaknesses	3 or higher
Deciding and Initiating Action  SCP13 only	Makes prompt, clear decisions which may involve tough choices or considered risks; Takes responsibility for actions, projects and people; Takes imitative, acts with confidence and works under own direction; Initiates and generates activity	3 or higher
Analysing  SCP13 only	Analyses numerical data, verbal data and all other sources of information; Breaks information into component parts, patterns and relationships; Probes for further information or greater understanding of a problem; Makes rational judgements from the available information and analysis; Produces workable solutions to a range of problems; Demonstrates an understanding of how one issue may be part of a much larger system.	3 or higher

## 4 Competency Rating Scale

A five point rating scale is used for the assessment of behavioural competencies.

1	2	3	4	5
				
Significantly lower than required benchmark  Not likely to be a strength	Lower than Benchmark  Less likely to be a strength	Meets Benchmark  Likely to be a strength	Exceeds Benchmark to be a strength  Quite likely to be a strength	Significantly exceeds benchmark to be a strength  Very likely to be a strength

## 5 Assessment Methodology

Assessment in this competency is undertaken using one, or a combination of the following methods

- a) Candidate completion of Occupational Personality Questionnaire (OPQ). This questionnaire is used throughout the world and has been designed to identify an individual's most likely patterns of behaviour. (see the use of OPQ in behavioural assessment background document)
- b) Behavioural Interview conducted with candidates supervisor
- c) Behavioural interview conducted with candidate

## 6 Behavioural Assessment Process

### 6.1 Process Stages

- a) Candidate completes the on line OPQ.
- b) Normative data is analysed and indicative benchmarks recorded.
- c) Indicators that are not consistent with profile benchmarks are explored further with the candidates' current or recent supervisor and data is evaluated accordingly.
- d) Where inconsistencies still exist, behavioural interview is conducted with the candidate and results evaluated.
- e) Behavioural competencies are rated and assessment process finalised.
- f) If the candidate does not meet the profile benchmarks, a development plan is put in place and the candidate is re-assessed quarterly using supervisor report mechanism.
- g) If the candidate meets the profile benchmarks a Behavioural Competency Assessment report is produced and included in portfolio of evidence. (PR S 43002 Behavioural Competency Assessment Report)

**Behavioural Competencies and corresponding questions for Assist in Inspection and Testing, Perform Inspection and Circuit Testing, and Perform Circuit Function Testing of Signalling Works (ST S 43011, 12 and 13)**

Competency	Descriptor	Supervisor Questions	Candidate Questions
<p><b>Working with People</b> SCP12 &amp; 13 only</p>	<p>Demonstrates an interest in understanding of others; Adapts to the team and builds team spirit; Recognises and rewards the contribution of others; Listens, consults others and communicates proactively; Supports and cares for others; Develops and openly communicates self-insight such as an awareness of own strengths and weaknesses.</p>	<p>Contact ESI Signalling Integrity for OPQ questions.</p>	<p>Contact ESI Signalling Integrity for OPQ questions.</p>
<p><b>Adhering to Principles and Values</b> SCP11, 12 &amp; 13</p>	<p>Upholds ethics and values; Demonstrates integrity; Promotes and defends equal opportunities, builds diverse teams; Encourages organisational and individual responsibility towards the community and the environment.</p>	<p>Contact ESI Signalling Integrity for OPQ questions.</p>	<p>Contact ESI Signalling Integrity for OPQ questions.</p>
<p><b>Planning and Organising</b> SCP11, 12 &amp; 13</p>	<p>Sets clearly defined objectives; Plans activities and projects well in advance and takes account of possible changing circumstances; Identifies and organises resources needed to accomplish tasks; Monitors performance against deadlines and milestones.</p>	<p>Contact ESI Signalling Integrity for OPQ questions.</p>	<p>Contact ESI Signalling Integrity for OPQ questions.</p>

Competency	Descriptor	Supervisor Questions	Candidate Questions
<b>Following Instructions and Procedures</b> SCP11, 12 & 13	Contact ESI Signalling Integrity for OPQ questions.	Contact ESI Signalling Integrity for OPQ questions.	Contact ESI Signalling Integrity for OPQ questions.
<b>Coping with Pressures and Setbacks</b> SCP11, 12 & 13	Maintains a positive outlook at work; works productively in a pressurised environment; keeps emotions under control during difficult situations; handles criticism well and learns from it; balances the demands of a work life and a personal life.	Contact ESI Signalling Integrity for OPQ questions.	Contact ESI Signalling Integrity for OPQ questions.
<b>Deciding and Initiating Action</b> SCP13 only	Makes prompt, clear decisions which may involve tough choices or considered risks; Takes responsibility for actions, projects and people; Takes imitative, acts with confidence and works under own direction; Initiates and generates activity	Contact ESI Signalling Integrity for OPQ questions.	Contact ESI Signalling Integrity for OPQ questions.
<b>Analysing</b> SCP13 only	Contact ESI Signalling Integrity for OPQ questions.	Contact ESI Signalling Integrity for OPQ questions.	Contact ESI Signalling Integrity for OPQ questions.

## 7 Behavioural Competency Assessment Report

### Assist in Inspection and Testing, or Perform Inspection and Circuit Testing, or Perform Circuit Function Testing of Signalling Works (ST S 43011, 12 and 13) – Behavioural Competency Assessment

Candidate Name:	Joe Blogs
Report Prepared By:	Bee Checker
Role:	Signal Engineer, Sydney Trains
Date:	Friday 3rd December, 2010

This report is provided as evidence of assessment of the behavioural competency of the candidate to undertake Assist in Inspection and Testing (ST S43011)/ Perform Inspection and Circuit Testing(ST S 43012)/ Perform Circuit Function Testing of Signalling Works (ST S 43013).

Occupational Personality Questionnaire was completed on 22nd November, 2010 and the outcome of this assessment indicated that the following competencies needed to be validated via a Supervisors report:

#### Behavioural Competencies Assessed– Assist in Inspection and Testing/ Perform Inspection and Circuit Testing/ Perform Circuit Function Testing of Signalling Works

		Candidate Overall Rating
<b>Working with People</b> SCP12 & 13 only	Demonstrates an interest in understanding of others; Adapts to the team and builds team spirit; Recognises and rewards the contribution of others; Listens, consults others and communicates proactively; Supports and cares for others; Develops and openly communicates self-insight such as an awareness of own strengths and weaknesses.	<b>Exceeds Criteria</b>
<b>Adhering to Principles and Values</b> SCP11, 12 & 13	Upholds ethics and values; Demonstrates integrity; Promotes and defends equal opportunities, builds diverse teams; Encourages organisational and individual responsibility towards the community and the environment.	<b>Meets criteria</b>

		<b>Candidate Overall Rating</b>
<b>Planning and Organising</b> SCP11, 12 & 13	Sets clearly defined objectives; Plans activities and projects well in advance and takes account of possible changing circumstances; Identifies and organises resources needed to accomplish tasks; Monitors performance against deadlines and milestones.	<b>Meets criteria</b>
<b>Following Instructions and Procedures</b> SCP11, 12 & 13	Appropriately follows instructions from others without unnecessarily challenging authority; Follows procedures and policies; Keeps to schedules; Arrives punctually for work and meetings; Demonstrates commitment to the organisation; Complies with legal obligations and safety requirements of the role.	<b>Meets criteria</b>
<b>Coping with Pressures and Setbacks</b> SCP11, 12 & 13	Maintains a positive outlook at work; works productively in a pressurised environment; keeps emotions under control during difficult situations; handles criticism well and learns from it; balances the demands of a work life and a personal life.	<b>Exceeds criteria</b>
<b>Deciding and Initiating Action</b> SCP13 only	Makes prompt, clear decisions which may involve tough choices or considered risks; Takes responsibility for actions, projects and people; Takes initiative, acts with confidence and works under own direction; Initiates and generates activity	<b>Meets criteria</b>
<b>Analysing</b> SCP13 only	Analyses numerical data, verbal data and all other sources of information; Breaks information into component parts, patterns and relationships; Probes for further information or greater understanding of a problem; Makes rational judgements from the available information and analysis; Produces workable solutions to a range of problems; Demonstrates an understanding of how one issue may be part of a much larger system.	<b>Significantly exceeds criteria</b>

Supervisors follow up report was conducted with Tee Rex (Commissioning Engineer, Sulphide Junction Project) on Tuesday 30th November to explore the competency of Planning and Organising. Mr Rex provided examples that he had observed of Joe Blogs planning and organising resources required to undertake work tasks and being able to organise his time to complete work.