

John Holland Competency Matrices

**JOHN
HOLLAND**

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1 Introduction

These Competency Matrices are to be used in conjunction with [RLA-MPR-HRT-003 Rail Training and Competency Management Procedure](#).

The Competency profiles have been established for a full range of roles that are engaged on John Holland projects for Rail Safety Workers and non-Rail Safety Workers.

National rail safety worker roles have been set in accordance with nationally accredited competencies as defined in the Australasian Railway Association (ARA) Rail Industry worker website <http://railindustryworker.com.au>.

2 Symbols in Tables

The following symbols are used in the Competency Profile Tables, unless noted differently:

- ** - Evidence to be relevant for discipline
- M - Required mandatory competency
- P - Preferred Qualification
- M* - Must hold one of these relevant to the discipline
- O - Optional
- O* - Must hold if required to attend site
- X - Unit of competency equivalent to JH Track Business Rules

3 Proficiency Levels

The following table details the proficiency levels required for Engineering Roles.

Proficiency Level	Description	Meaning
1	Working supervised	Working/Supervised means that the worker has sufficient knowledge and basic understanding of best practice, within the organisation or within the relevant industry, to be able to work on the tasks associated with the overall function without placing an excessive burden on the practitioner or expert that may compromise safety. A proficient, specialist or expert worker checks a working/supervised worker's work. Supervised practitioners may not have previous experience of working on a complex project. Their competencies may have been developed through targeted training and work on non-related projects. An assessor may need to extrapolate from evidence of technical skills derived from another project environment to determine competence and the level of supervision.
	Awareness	This is only applicable to the Systems Engineering Roles Matrix in Section 4.3.10. Proficiency level 1 requires an "awareness" of the tasks associated with the systems engineering function. The person would not work on the tasks associated with the overall function.
2	Proficient	A proficient worker has sufficient knowledge and detailed understanding of best practice, and sufficient demonstrated experience, to be able to work on the tasks associated with the overall function with little or no supervision. A proficient worker will maintain their knowledge and be aware of all current developments in their field of work. The proficient worker may be required to perform detailed checks on the work carried out by a working/supervised worker.
3	Specialist	A specialist will have an authoritative understanding of why things are done in certain ways, and sufficient demonstrated managerial skills, to be able to undertake overall responsibility for the performance of a function.

		<p>A specialist will be familiar with the ways in which systems, and previous systems or projects, have failed in the past.</p> <p>A specialist will keep abreast of technologies, architectures, application solutions, standards, and regulatory requirements, particularly in evolving fields. A specialist will have sufficient breadth of experience, knowledge and deep understanding to be able to work in novel complex situations.</p> <p>A specialist is able to deal with multiple problems under pressure without compromising safety.</p>
4	Expert	<p>An expert provides guidance, troubleshoots and answers questions related to this area of expertise and the field where the skill is used with a strategic focus.</p> <p>An expert has demonstrated consistent excellence in applying this competency across multiple projects and/or organizations. An expert creates new applications for and/or lead the development of reference and resource materials for their area of competence.</p> <p>An expert can diagram or explain the relevant process elements and issues in relation to organizational issues and trends in sufficient detail during discussions and presentations, to foster a greater understanding among internal and external colleagues and constituents.</p>

4 Competency Matrices

4.1 ARA Rail Industry Worker National Matrices

The National Rail Industry Worker Governance Committee (NRIWGC) is continually working to standardise roles across the rail industry nationally.

The NRIWGC has recently revised the national role matrices that outline the competencies required to hold specific roles. These updates improve and simplify the selection of roles and provide improved descriptions for users. In most cases, the competency requirements for these roles have been rationalised.

The revised matrices provide further consistency and agreed minimum requirements across participating rail operators and will assist contractors working for multiple employers, operators or across multiple networks.

The following matrices are applicable to the RIW Program:

- [National Track and Civil Matrix](#)
- [National Plant Matrix](#)
- [National Trades Matrix](#)
- [National Operator Roles Matrix](#)

Current versions of these matrices can be found on the ARA website - <https://ara.net.au/key-issues/riw-national-matrices>.

It is important that the rail industry worker selects and holds the relevant role for the rail safety work being undertaken via the National RIW competency management platform.

4.2 Rail Transport Operator (RTO) Matrices

The following sections detail those competencies that must be assessed by the relevant Rail Transport Operator. These include:

Design engineering roles are detailed in 4.2.1;

Signalling roles are detailed in 4.2.2;

Electrical roles are detailed in 4.2.3;

4.2.1 Design Engineering Matrices

Competency Matrices for Design roles are detailed by the relevant RTO.

Jurisdiction	RTO	Details
National	ARTC	Refer to ARTC website at https://www.artc.com.au/work/contractors/rswc/engineering-design-project-management-roles/ .
Victoria	MTM	Refer to MTM Academy at http://www.metrotrains.com.au/academy/ .
	V/Line	Contact V/Line.
	Yarra Trams	Contact Yarra Trams.
Queensland	Queensland Railways	Refer to QR website at https://www.queenslandrail.com.au/forbusiness/contractors/railworkers .
	Aurizon	Contact Aurizon.
New South Wales	TfNSW	All Design is required to be undertaken by Designers with Authorised Engineering Organisation (AEO) approval. Refer to https://www.transport.nsw.gov.au/industry/asset-standards-authority .
	Sydney Trains	Sydney Trains operate under the AEO framework, therefore see TfNSW above.
	CRN	Contact CRN.
	Sydney Metro (MTS)	Contact MTS.
South Australia	DPTI	Contact DPTI.
	GWA	Contact GWA.
West Australia	PTA	Contact PTA.
	Brookfield Rail	Contact ARC Infrastructure.
Tasmania	TasRail	Contact TasRail.

4.2.2 Signalling Matrices

Competency Matrices for Signalling roles are detailed by the relevant RTO.

Jurisdiction	RTO	Details
National	ARTC	Refer to ARTC website at https://www.artc.com.au/work/contractors/rswc/engineering-design-project-management-roles/ .
Victoria	MTM	Refer to MTM Academy at http://www.metrotrains.com.au/academy/ .
	V/Line	Contact V/Line.
	Yarra Trams	Contact Yarra Trams.
Queensland	Queensland Railways	Refer to QR website at https://www.queenslandrail.com.au/forbusiness/contractors/railworkers .
	Aurizon	Contact Aurizon.
New South Wales	TfNSW	All Design is required to be undertaken by Designers with Authorised Engineering Organisation (AEO) approval. Refer to https://www.transport.nsw.gov.au/industry/asset-standards-authority .
	Sydney Trains	Sydney Trains operate under the AEO framework, therefore see TfNSW above.
	CRN	Contact CRN.
	Sydney Metro (MTS)	Contact MTS.

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South Australia	DPTI	Contact DPTI.
	GWA	Contact GWA.
West Australia	PTA	Contact PTA.
	Brookfield Rail	Contact ARC Infrastructure.
Tasmania	TasRail	Contact TasRail.

4.2.3 Electrical Matrices

Competency Matrices for Electrical roles are detailed by the relevant RTO.

Jurisdiction	RTO	Details
National	ARTC	Refer to ARTC website at https://www.artc.com.au/work/contractors/rswc/engineering-design-project-management-roles/ .
Victoria	MTM	Refer to MTM Academy at http://www.metrotrains.com.au/academy/ .
	V/Line	Contact V/Line.
	Yarra Trams	Contact Yarra Trams.
Queensland	Queensland Railways	Refer to QR website at https://www.queenslandrail.com.au/forbusiness/contractors/railworkers .
	Aurizon	Contact Aurizon.
New South Wales	TfNSW	All Design is required to be undertaken by Designers with Authorised Engineering Organisation (AEO) approval. Refer to https://www.transport.nsw.gov.au/industry/asset-standards-authority .
	Sydney Trains	Sydney Trains operate under the AEO framework, therefore see TfNSW above.
	CRN	Contact CRN.
	Sydney Metro (MTS)	Contact MTS.
South Australia	DPTI	Contact DPTI.
	GWA	Contact GWA.
West Australia	PTA	Contact PTA.
	Brookfield Rail	Contact ARC Infrastructure.
Tasmania	TasRail	Contact TasRail.

4.3 John Holland Matrices

4.3.1 General

The competencies identified in Section 4.3 John Holland Matrices only include those details required to obtain role competencies that are required for registration on the ARA RIW platform.

Corporate training provided by John Holland for specific Mandatory Requirements, SQERM or Management style courses shall be undertaken in accordance with John Holland requirements as determined from time to time and do not form part of the competency management process.

The information contained in the Matrices is for reference only and could be subject to additional requirements from the relevant Rail Transport Operator.

4.3.2 Rail Safety Work

Projects shall determine which employees are deemed to be a Rail Safety Worker in accordance with **Section 5 Rail Safety Worker.**

Competencies for Rail Safety Workers shall generally be made up of the roles as detailed in Section 3 **Error! Reference source not found.** and an “Around the Track Personnel” role as defined in Section 4.1 ARA Rail Industry Worker National Matrices.

4.3.3 Reciprocal Recognition

The John Holland Matrices identified in this Section 4.3 and associated JH Competency Management processes have been recognised and accepted by:

1. TfNSW ASA as an Authorised Engineering Organisation (AEO);
2. ARTC

4.3.4 White Collar Roles

The following Matrices identify roles which are to be assessed using qualitative assessment requirements and appointed JH Competency Assessors as detailed in [RLA-MPR-HRT-003 Rail Training and Competency Management Procedure](#).

John Holland Competency Matrices

4.3.4.1 Project Management Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Project Director Path 1	Project Director Path 2	Senior Project Manager Path 1	Senior Project Manager Path 2	Project Manager Path 1	Project Manager Path 2	Design Manager - Path 1	Design Manager - Path 2	Engineering Manager – Path 1	Engineering Manager – Path 2
Rail Safety Worker		Project specific determination required									
Competency requirements											
Essential Education & Training											
	Bachelor Degree (Engineering or similar)	M		M		M		M		M	
	Tertiary Education										M*
	Advanced Diploma										M*
	Diploma										M*
Essential Relevant Experience											
	3 Years					M					
	5 Years			M			M				
	7 Years	M			M			M	M		
	10 Years		M							M	
	15 Years										M
Required Proficiency Level											
	Candidates must demonstrate overall proficiency at this level	3	3	3	3	2	2	4	2	4	4

John Holland Competency Matrices

Relevant Experience Evidence		For new entrants must have this completed within 6 months (Probationary Period)									
1	Provide evidence of a comprehensive understanding of Risk Management	M	M	M	M	M	M	M	M	M	M
2	Provide evidence of an understanding of configuration/change management	M	M					M		M	M
3	Provide evidence of an understanding of Asset Management							M		M	M
4	Provide evidence of an understanding of Engineering Competency	M	M	M	M	M	M	M		M	M
5	Provide evidence of an understanding of implementing standards and issuing concessions	M	M	M	M	M	M	M		M	M
6	Provide evidence of the understanding of design approval processes	M	M	M	M	M	M	M		M	M
7	Provide evidence of an understanding of Rail System Safety/Assurance/Accreditation	M	M	M	M	M	M	M	M	M	M
8	Provide evidence of the integration of engineering with other professional input.	M	M	M	M	M	M	M		M	M
9	Provide evidence of where you developed engineering solutions.							M		M	M
10	Provide evidence where you identified constraints on potential engineering solutions.							M		M	M
11	Provide evidence of interpreting and scoping design requirements.	M	M	M	M	M	M	M		M	M
12	Provide evidence where you prepared concept proposals including advice on the latest technology.							M		M	M
13	Provide evidence when you implemented planning and design processes.							M		M	M
14	Provide evidence of when you reviewed a design to achieve acceptance.							M		M	M
15	Provide evidence of preparing and maintaining documentation during the design process.							M		M	M
16	Provide evidence of design validation							M		M	M
17	Provide Evidence when you contributed to engineering business strategies.							M		M	M
18	Provide evidence of when you managed the implementation of engineering plans within a business							M		M	M
19	Provide evidence of when you monitored engineering business performance.							M		M	M
20	Provide evidence of situations when you have managed people	M	M	M	M	M	M	M	M	M	M
21	Provide evidence of when you managed the physical resources (Materials / Plant / Equipment) within a project	M	M	M	M	M	M	M	M	M	M

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22	Provide evidence of when you have managed quality, safety, environment and risk.	M	M	M	M	M	M	M	M	M	M
23	Provide evidence of when you have managed cost / procurement for a project.	M	M	M	M	M	M	M	M	M	M
24	Provide evidence of the management of timing and progress of a project.	M	M	M	M	M	M	M	M	M	M
25	Provide evidence of the finalisation of a project.	M	M	M	M	M	M	M		M	M
26	Provide evidence of planning operations and systems.								M	M	M
27	Provide evidence of when you have measured and documented engineering operations and systems.									M	M
28	Provide evidence of when you have managed contractual issues.	M	M	M	M	M	M	M		M	M
29	Provide evidence of the integration of all functions of project management	M	M	M	M	M	M	M		M	M

John Holland Competency Matrices

Project Management Roles Matrix

Role examples (A-Z)

NOTE: These are to be used as a guide only. If you are unsure which role applies to you, please seek clarification from the operator with whom you propose to work as to what role is required for your intended duties. It is the individual's responsibility to ensure that the appropriate role is held before work is carried out.

Role	Examples
Project Director	Lead the successful delivery of major and complex projects with multiple work streams (normally valued in excess of \$1bn) in accordance with design requirements, time and cost constraints, and commercial, HR, safety, quality, and environment and community targets. Achieve or exceed project financial targets, identifying and mitigating issues and capitalising on opportunities.
Engineering Manager	Provide engineering services to site management and control and coordinate the preparation of engineering estimates for submissions of tenders including recommendation on engineering design aspects. Lead the successful delivery of a project (normally valued under \$500m) in accordance with design requirements, time and cost constraints, and commercial, HR, safety, quality, and environment and community targets. Achieve or exceed project financial targets, identifying and mitigating issues as they arise and capitalising on opportunities.
Design Manager	Lead and manage the design delivery process, function and team within the project life cycle to maximise the winning of work and deliver successful project outcomes.
Senior Project Manager	Lead the successful delivery of large and complex projects (normally valued \$500m-\$1bn) in accordance with design requirements, time and cost constraints, and commercial, HR, safety, quality, and environment and community targets. Achieve or exceed project financial targets, identifying and mitigating issues as they arise and capitalising on opportunities.
Project Manager	Lead the successful delivery of a project (normally valued under \$500m) in accordance with design requirements, time and cost constraints, and commercial, HR, safety, quality, and environment and community targets. Achieve or exceed project financial targets, identifying and mitigating issues as they arise and capitalising on opportunities.

John Holland Competency Matrices

4.3.4.2 Project Engineering Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Chief Engineer	Senior Project Engineer	Project Engineer	Construction Manager - Path 1	Construction Manager - Path 2	Site Engineer	Senior - Project Officer/Technician	Project Officer/Technician	Graduate Engineer	Graduate - Construction Manager	General Superintendent / Site Manager
	Rail Safety Worker				Project specific determination required							
	Competency requirements											
	Essential Education & Training											
	Bachelor Degree (Engineering or similar)	M	M	M	M*		M			M		
	Bachelor Degree - Construction Management				M*						M	
	Tertiary Education					M*		M*	M*			
	Advanced Diploma					M*		M*	M*			
	Diploma					M*		M*	M*			
	Essential Relevant Experience											
	1 YEAR								M			
	2 YEARS				M		M					
	3 YEARS			M								
	5 YEARS					M						
	7 YEARS		M					M				M
	10 YEARS	M										

John Holland Competency Matrices

Required Proficiency Level					-							
Candidates must demonstrate overall proficiency at this level		4	3	2	2	2	1	3	2	1	1	2
Relevant Experience Evidence					<u>For new entrants must have this completed within 6 months (Probationary Period)</u>							
1	Provide evidence of a comprehensive understanding of Risk Management	M	M		M	M						M
2	Provide evidence of an understanding of configuration/change management	M										
3	Provide evidence of an understanding of Asset Management	M										
4	Provide evidence of an understanding of Engineering Competency	M	M		M	M						
5	Provide evidence of an understanding of implementing standards and issuing concessions	M	M		M	M						
6	Provide evidence of the understanding of design approval processes	M	M		M	M						
7	Provide evidence of an understanding of Rail System Safety/Assurance/Accreditation	M	M		M	M						M
8	Provide evidence of the integration of engineering with other professional input.	M	M	M	M	M	M	M	M			
9	Provide evidence of where you developed engineering solutions.	M	M	M			M					
10	Provide evidence where you identified constraints on potential engineering solutions.	M	M	M			M					
11	Provide evidence of interpreting and scoping design requirements.	M	M	M	M	M	M	M	M			
12	Provide evidence where you prepared concept proposals including advice on the latest technology.	M	M	M			M					
13	Provide evidence when you implemented planning and design processes.	M	M	M			M					
14	Provide evidence of when you reviewed a design to achieve acceptance.	M										
15	Provide evidence of preparing and maintaining documentation during the design process.	M										
16	Provide evidence of design validation	M										

John Holland Competency Matrices

17	Provide Evidence when you contributed to engineering business strategies.	M										
18	Provide evidence of when you managed the implementation of engineering plans within a business	M										
19	Provide evidence of when you monitored engineering business performance.	M										
20	Provide evidence of situations when you have managed people	M	M	M	M	M	M					M
21	Provide evidence of when you managed the physical resources (Materials / Plant / Equipment) within a project	M	M	M	M	M	M					M
22	Provide evidence of when you have managed quality, safety, environment and risk.	M	M	M	M	M	M	M	M			M
23	Provide evidence of when you have managed cost / procurement for a project.	M	M	M	M	M	M	M	M			M
24	Provide evidence of the management of timing and progress of a project.	M	M	M	M	M	M	M	M			M
25	Provide evidence of the finalisation of a project.	M	M	M	M	M	M					
26	Provide evidence of planning operations and systems.	M										M
27	Provide evidence of when you have measured and documented engineering operations and systems.	M										
28	Provide evidence of when you have managed contractual issues.	M	M		M	M						
29	Provide evidence of the integration of all functions of project management	M	M		M	M						

John Holland Competency Matrices

Project Engineering Roles Matrix

Role examples (A-Z)

NOTE: These are to be used as a guide only. If you are unsure which role applied to you, please seek clarification from the operator with whom you propose to work as to what role is required for your intended duties. It is the individual's responsibility to ensure that the appropriate role is held before work is carried out.

Role	Examples
Chief Engineer	The chief engineer is responsible for the technical supervision of the development, production or operation of an engineering project for a multinational corporation, a major company or a government institution. The Chief Engineer develops the standards and guidelines that will be utilised in the organisation to ensure the successful outcome of complex engineering projects.
Senior Project Engineer	Coordinate on-site engineering functions for allocated projects to achieve time and budget objectives and provide efficient support for construction activities.
Project Engineer	Coordinate on-site construction engineering activities to achieve project time and budget objectives.
Construction Manager	Control and coordinate all site-based construction activities to ensure that assigned construction works are completed to the client's satisfaction and to meet quality, time and profit objectives.
Site Engineer	Provide onsite engineering services and technical support to ensure short term planning and programming of works is completed in conjunction with the site supervision staff.
Senior Project Officer / Technician	Coordinate on-site engineering functions for allocated projects to achieve time and budget objectives and provide efficient support for construction activities.
Project Officer / Technician	Coordinate on-site construction engineering activities to achieve project time and budget objectives.
Graduate Engineer	Assist in the planning, support and reporting for all aspects of the Corporate, Business Unit, Region and Project work execution.
Graduate Construction Manager	Assist in the coordination of site-based construction activities to ensure that assigned construction works in conjunction with site supervision staff.
General Superintendent / Site Manager	Oversee on-site construction and operational delivery of the whole project to ensure effective performance for the achievement of all planned schedules and project deliverables. Provide effective leadership and sustainable working relationships with all internal and external stakeholders to ensure site safety, quality and environment controls and risk management.

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4.3.4.3 Systems Engineering Roles Matrix

Note that these competencies are based on the International Council on Systems Engineering (INCOSE) Competency framework.

These requirements have been adopted by TfNSW and the document "T MU CY 05000 GU Competency Guideline – Systems Engineering" can be used to assist in undertaking competency assessments. This document details the types of evidence that should be provided for each competency detailed in the table below.

Competency Management Mandatory & Optional Competencies, Education & Training	Chief Systems Engineering Manager	Systems Engineering Manager	Systems / Safety Assurance Manager	Systems / Safety Assurance Engineer	Verification and Validation Lead	Verification and Validation Engineer	System Integration Lead	System Integration Engineer	Requirements Management Lead	Requirements Management Officer	Configuration Management Lead	Configuration Management Officer	Interface Management Lead	Interface Management Officer	RAM Lead	RAM Engineer	Human Factors Lead	Human Factors Officer	System Architecture Lead	System Architecture Engineer
Education																				
Bachelor's Degree or Technical Graduate Degree (eg Masters) in a relevant discipline.	M	M	P	M	P	M	P	M	P	O	P	O	P	O	M	M			P	M
Relevant Tertiary education plus experience in the discipline			M		M		M		M	M	M	M	M	M					M	
International Engineering Safety Management (iESM) or equivalent tertiary qualification.			M	O													O	O		
Master's Degree in Human Factors or Ergonomics																	O	O		

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Competency Management Mandatory & Optional Competencies, Education & Training	Chief Systems Engineering Manager	Systems Engineering Manager	Systems / Safety Assurance Manager	Systems / Safety Assurance Engineer	Verification and Validation Lead	Verification and Validation Engineer	System Integration Lead	System Integration Engineer	Requirements Management Lead	Requirements Management Officer	Configuration Management Lead	Configuration Management Officer	Interface Management Lead	Interface Management Officer	RAM Lead	RAM Engineer	Human Factors Lead	Human Factors Officer	System Architecture Lead	System Architecture Engineer
Tertiary Education in Human Factors																	M	M		
Specialisms																				
RAM, FRACAS, FMEA and FMECA	2	3	2	2											3	3				
Hazard management and coordination	2	2	3	2											2	1	2	1		
Safety risk assessment	2	2	3	2											2	1	2	1		
Development of safety cases	2	2	3	2											1	1	1	1		
Requirements elicitation, analysis and allocation.	2	2	1	1	2	1			3	2										
Third Party Evidence of Competency																				
Expert Systems Engineering Professional (ESEP)	O																			
Certified Systems Engineering Professional (CSEP)		O	O		O		O		O		O		O		O		O		O	

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Competency Management Mandatory & Optional Competencies, Education & Training	Chief Systems Engineering Manager	Systems Engineering Manager	Systems / Safety Assurance Manager	Systems / Safety Assurance Engineer	Verification and Validation Lead	Verification and Validation Engineer	System Integration Lead	System Integration Engineer	Requirements Management Lead	Requirements Management Officer	Configuration Management Lead	Configuration Management Officer	Interface Management Lead	Interface Management Officer	RAM Lead	RAM Engineer	Human Factors Lead	Human Factors Officer	System Architecture Lead	System Architecture Engineer
Associate Systems Engineering Professional (ASEP)				O		O		O		O		O		O		O		O		O
If the person does not have third party evidence of competency the following shall be assessed for each role.																				
Competencies and required proficiency level for each competency																				
1. Holistic lifecycle view																				
a.Determining and managing stakeholder requirements	3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
b.SYSTEM DESIGN – System architectural design	3	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2
c.Systems design – concept generation	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	3	2	3	2
d.Design for...	3	3	3	2	3	2	3	2	1	1	1	1	1	1	3	2	3	2	3	2
e.Functional analysis	3	3	3	2	1	1	3	2	3	2	3	2	3	2	3	2	3	2	3	2
f. Technical Interface management	3	3	1	1	1	1	3	2	1	1	1	1	3	2	1	1	3	2	3	2
g.Maintaining design integrity	3	3	3	2	3	2	3	2	3	2	3	2	3	2	1	1	3	2	3	2

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training	Chief Systems Engineering Manager	Systems Engineering Manager	Systems / Safety Assurance Manager	Systems / Safety Assurance Engineer	Verification and Validation Lead	Verification and Validation Engineer	System Integration Lead	System Integration Engineer	Requirements Management Lead	Requirements Management Officer	Configuration Management Lead	Configuration Management Officer	Interface Management Lead	Interface Management Officer	RAM Lead	RAM Engineer	Human Factors Lead	Human Factors Officer	System Architecture Lead	System Architecture Engineer
h. System modelling and simulation	3	3	1	1	1	1	3	2	1	1	3	2	1	1	3	2	3	2	3	2
i. Select preferred solution	3	3	3	2	3	2	3	2	1	1	3	2	3	2	3	2	3	2	1	1
j. System design – System integrity	3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
k. Systems integration and verification	3	3	3	2	1	1	3	2	3	2	3	2	3	2	3	2	1	1	1	1
l. Validation	3	3	3	1	3	2	1	1	3	2	1	1	1	1	3	2	1	1	1	1
m. Transition to operation	3	3	3	2	1	1	3	2	3	2	3	2	1	1	3	2	3	2	1	1
2. Systems engineering management competencies																				
a. Concurrent engineering	3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
b. Enterprise integration	3	3	1	1	1	1	3	2	1	1	1	1	3	2	1	1	1	1	3	2
c. Integration of specialisms	3	3	3	2	1	1	3	2	1	1	1	1	3	2	1	1	1	1	3	2
d. Life cycle process definition	3	3	1	1	1	1	1	1	3	2	3	2	1	1	3	2	1	1	3	2
e. Planning, monitoring and controlling	3	3	3	2	1	1	1	1	3	2	3	2	1	1	3	2	3	2	3	2

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Chief Systems Engineering Manager	Systems Engineering Manager	Systems / Safety Assurance Manager	Systems / Safety Assurance Engineer	Verification and Validation Lead	Verification and Validation Engineer	System Integration Lead	System Integration Engineer	Requirements Management Lead	Requirements Management Officer	Configuration Management Lead	Configuration Management Officer	Interface Management Lead	Interface Management Officer	RAM Lead	RAM Engineer	Human Factors Lead	Human Factors Officer	System Architecture Lead	System Architecture Engineer
3.	Systems thinking competencies																				
a.System concepts		3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
b.Super system capability issues		3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
c. Enterprise and technology environment		3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2

Note: Proficiency level 1 requires an "awareness" of the tasks associated with the systems engineering function. The person would not work on the tasks associated with the overall function.

Systems Engineering Roles Matrix

Role examples (A-Z)

NOTE: These are to be used as a guide only. If you are unsure which role applies to you, please seek clarification from the operator with whom you propose to work as to what role is required for your intended duties. It is the individual's responsibility to ensure that the appropriate role is held before work is carried out.

Role	Examples
Chief Systems Engineering Manager	The Chief Systems Engineering Manager independently sets the scope, principles and practices required to accomplish the objectives of their organisation. They would lead an entire program and make authoritative decisions and recommendations that are conclusive and that may have far-reaching impact on the organisation.
Systems Engineering Manager	Provide engineering management for requirements management, Configuration management, software and verification and validation activities of the project to ensure all outputs support the delivery and integrity of the project deliverables.
Systems / Safety Assurance Manager	Responsible for the assurance of System Safety (including development of Safety Cases), RAM and Human Factors activities of the project to ensure all outputs support the delivery and integrity of the project systems.
Systems / Safety Assurance Engineer	Responsible for System Safety Assurance implementation on the project, including the development of Assurance Cases to ensure all outputs support the delivery and integrity of the project systems.
Verification and Validation Lead	Oversee the Verification and Validation activities throughout the Project Lifecycle, ensuring project's compliance and conformance to its defined scope and technical requirements. Manage verification and validation engineers to ensure a high-performance team with V&V functional and technical expertise in the Railway domain.
Verification and Validation Engineer	Perform verification and validation related activities ensuring project's compliance and conformance to its defined scope and technical requirements. Support other systems engineering activities such as Requirements Management, Configuration Management, Architecture Definition, Systems Interfaces and Integration, Testing and Commissioning, as required.
System Integration Lead	Responsible for system integration, test & commissioning and operational readiness activities of the project to ensure all outputs support the delivery and system integrity of the project.
System Integration Engineer	Undertake system integration, test & commissioning and operational readiness activities to ensure all outputs support the delivery and system integrity of the project.
Requirements Management Lead	Responsible for Requirement Management activities throughout the Project Lifecycle, delivering the required outcomes on time, within budget and with high quality of deliverables. Lead, guide and mentor project staff as the functional authority/technical expert on requirements Engineering involving development and delivery of requirements specifications at various levels with well defined processes, tool support and control mechanisms.
Requirements Management Officer	Provide support in the definition, capture, allocation and management of project requirements.

John Holland Competency Matrices

Role	Examples
Configuration Management Lead	Lead the Configuration Management activities throughout the Project Lifecycle, delivering the required outcomes on time, within budget and ensuring technical integrity of delivered system configurations with an integrated set of tools. Responsible for the portfolio of CM tools and the staff supporting administration and support of these tools.
Configuration Management Officer	Undertake Configuration Management activities throughout the Project Lifecycle ensuring technical integrity of delivered system configurations with an integrated set of tools.
Interface Management Lead	Lead the management of internal and external technical and operational interfaces across the project in accordance with systems / safety assurance engineering, assurance and integration requirements, time and cost constraints, and commercial, HR, safety, quality, and environment and community targets. Achieve or exceed project financial targets, identifying and mitigating issues as they arise and capitalising on opportunities.
Interface Management Officer	Manage internal and external technical and operational interfaces across the project in accordance with systems / safety assurance engineering, assurance and integration requirements.
RAM Lead	Responsible for RAM implementation on the project, including the development of RAM analysis and demonstration reports to ensure all outputs support the delivery and integrity of the project systems.
RAM Engineer	Undertake RAM analysis to ensure all outputs support the delivery and integrity of the project systems.
Human Factors Lead	Lead the Human Factors input into the design of objects, facilities, and environments to optimize human well-being and overall system performance, applying theory, principles, and data regarding the relationship between humans and respective technology. Investigate and analyse characteristics of human behaviour and performance as it relates to the use of technology.
Human Factors Officer	Apply Human Factors requirements into the design of objects, facilities, and environments to optimize human well-being and overall system performance, applying theory, principles, and data regarding the relationship between humans and respective technology. Investigate and analyse characteristics of human behaviour and performance as it relates to the use of technology.
System Architecture Lead	Responsible for coordinating and integrating the inputs and contributions from all parties involved to develop a coherent definition of the projects Systems Architecture. Support Systems Engineering, Systems Integration and Systems Assurance activities, as required to ensure alignment of design packages and implemented systems to the Systems Architecture and its defined interfaces.
System Architecture Engineer	Undertake the coordination and integration of the inputs and contributions from all parties involved to develop a coherent definition of the projects Systems Architecture.

John Holland Competency Matrices

4.3.4.4 Competency Assessors Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Senior Competency Assessor	Competency Assessor - Engineers/Technical Officer roles	Competency Assessor - Systems Engineering/Assurance	Competency Assessor - Project Managers, Construction / Delivery Managers	Competency Assessor - Superintendent Technical	Competency Assessor - Signalling Roles	Competency Assessor - Safety roles
	Rail Safety Worker	Project specific determination required						
Competency Codes	Essential Relevant Experience in Similar position							
	> 7 YEARS	M	M	M	M	M	M	M
Competency Codes	Competency requirements							
	John Holland White collar assessment	M	M	M	M	M	M	M
	John Holland Competency Assessor Agreement	M	M	M	M	M	M	M
	John Holland Assessor Statement of Completion	M	M	M	M	M	M	M
	JH Competency management committee membership	M						
Competency Assessor function		Roles that can be assessed						
Senior competency assessor.		All roles						
Engineers/Technical Officer roles		Chief Engineer, Senior Project Engineer, Project Engineer, Site Engineer, Graduate Engineer, Senior Technical Officer, Technical Officer.						
Systems Engineering/Assurance roles		All Systems Engineering and Assurance Roles						
Project Managers, Construction/Delivery Managers		Project Director, Engineering Manager, Design Manager, Senior Project Manager, Project Manager, Construction Manager, General Superintendent						
Signalling roles		Signalling Engineers, Signalling technicians						
Communication and control systems		Control systems & Comms Technicians, technical officer, trades						
Safety roles		Rail safety manager, rail safety coordinator						

John Holland Competency Matrices

4.3.4.5 Testing and Commissioning Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Commissioning	OCC		DCC		Stations		Train		Track	
		Overall Commissioning Manager	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge
Rail Safety Worker		To be determined by the Project										
Competency Code	Essential Education & Training											
RNQ045	Bachelor Degree (Engineering or similar)	M	M	M	M	M	M	M	M	M	M	M
	Tertiary Education											
	Advanced Diploma											
	Diploma											
	Appropriate Trade Qualification											
	Essential Relevant Experience											
	10 YEARS	M										
	7 YEARS		M		M		M		M		M	
	5 YEARS			M		M		M		M		M
Competence Category	Relevant Experience Evidence**											
Technical	Required Proficiency Level	2	3	2	3	2	3	2	3	2	3	2

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Commissioning	OCC		DCC		Stations		Train		Track	
		Overall Commissioning Manager	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge
1	Demonstrate where you have controlled evidence of test & commissioning documentation.	M	M	M	M	M	M	M	M	M	M	M
2	Provide evidence of where you developed testing solutions and procedures.	M	M	M	M	M	M	M	M	M	M	M
3	Provide evidence of where you reviewed a test report to achieve acceptance	M	M	M	M	M	M	M	M	M	M	M
4	Provide evidence where you identified constraints on potential testing engineering solutions.	M	M	M	M	M	M	M	M	M	M	M
5	Provide evidence of verification and validation of requirements and standards.	M	M	M	M	M	M	M	M	M	M	M
6	Provide evidence of understanding of the technology being tested.	M	M	M	M	M	M	M	M	M	M	M
7	Demonstrate proficient in Train system and preparation: ➤ Door control ➤ Traction power ➤ Radio ➤ Brake control ➤ TMS ➤ CCTV.	M	M	M	M	M			M	M		
8	Demonstrate proficient in depot systems: ➤ Train dispatch /timetabling ➤ CCTV control system ➤ Power	M			M	M						

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Commissioning	OCC		DCC		Stations		Train		Track	
		Overall Commissioning Manager	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge
9	Demonstrate proficient in OCC system: <ul style="list-style-type: none"> ➤ PCS control system ➤ Signalling control ➤ System CCS control system ➤ COM control system ➤ Radio control system ➤ CCTV control system ➤ PED/B 	M	M	M								
10	Demonstrate proficient in Station systems; <ul style="list-style-type: none"> ➤ PEB/D ➤ CBTC ➤ CCS ➤ COM ➤ BMS ➤ PCS 	M					M	M				
11	Demonstrate proficient in Track system <ul style="list-style-type: none"> ➤ Track ➤ Points ➤ CBTC systems <ul style="list-style-type: none"> ○ Axle counters ○ Beacon ○ PPI ○ OHW 	M									M	M

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Commissioning	OCC		DCC		Stations		Train		Track	
		Overall Commissioning Manager	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge	Tester In Charge	Assistant Tester in Charge
Management	Required Proficiency Level	3	2	2	2	2	2	2	2	2	2	2
12	Provide evidence when you implemented planning and testing processes.	M	M	M	M	M	M	M	M	M	M	M
13	Provide evidence of situations when you have managed people	M	M	M	M	M	M	M	M	M	M	M
14	Provide evidence of when you managed the physical resources within a project	M	M	M	M	M	M	M	M	M	M	M
15	Provide evidence of when you have managed quality, safety, environment and risk.	M	M	M	M	M	M	M	M		M	
16	Provide evidence of when you have managed cost and procurement for a project.	M	M		M		M		M		M	
17	Provide evidence of the management of timing and progress of a project.	M	M	M	M	M	M	M	M	M	M	M
18	Provide evidence of the finalisation of a project.	M	M	M	M	M	M	M	M	M	M	M
19	Rail Safe working and procession planning	M	M	M	M	M	M	M	M	M	M	M
20	Incident and emergency preparedness	M	M	M	M	M	M	M	M	M	M	M

John Holland Competency Matrices

4.3.4.6 Rail Safety Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Corporate Rail Safety Manager - Support Services (Path 1)	Corporate Rail Safety Manager - Support Services (Path 2)	Project Rail Safety Manager (Path 1)	Project Rail Safety Manager (Path 2)	Project Rail Safety Manager (Path 3)	Project Rail Safety Coordinator (Path 1)	Project Rail Safety Coordinator (Path 2)	Project Rail Safety Coordinator (Path 3)
Rail Safety Worker		Project specific determination required							
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)								
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3
Competency Code	Competency Requirements								
TLIF2080	Safely access the Rail corridor (work safely in the Rail corridor) - eg RISI - TSA	M	M	M	M	M	M	M	M
CPCCOHS1001A	Work Safely in the construction industry (White Card)	M	M	M	M	M	M	M	M
TLIF 2010	Apply Fatigue Management Strategies**	M	M	M	M	M	M	M	M
	Risk Based Investigation or ICAM investigation	M	M	M	M	M	M	M	M
	John Holland Safety, Quality & Environment Risk Management	O	O	M	M	M	M	M	M
	Strategic Safety, Quality & Environmental Risk Management	M	M	O	O	O	O	O	O
003268	Safety Awareness Assessment – Development	O	O	O	O	O	O	O	O
	Lead Auditor Course	M	M	M	M	M	O	O	O
	Essential Education & Training								

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Corporate Rail Safety Manager - Support Services (Path 1)	Corporate Rail Safety Manager - Support Services (Path 2)	Project Rail Safety Manager (Path 1)	Project Rail Safety Manager (Path 2)	Project Rail Safety Manager (Path 3)	Project Rail Safety Coordinator (Path 1)	Project Rail Safety Coordinator (Path 2)	Project Rail Safety Coordinator (Path 3)
	Bachelor Degree (or higher) Rail Safety/Risk Management/WHS	M		M			M		
	Diploma / Advanced Diploma in WHS/Industry construction/Operations experience				M				
	Diploma in WHS / Tertiary qualification in WHS with at least one unit of competency in risk management/safety		M		M			M	
	Cert IV in WHS / Tertiary qualification with at least one unit of competency in risk management/safety					M			M
	Years of Experience in the Rail Operations / Rail Infrastructure/ Rolling Stock								
	3 Years						M	M	
	5 Years	M		M					M
	7 Years		M		M				
	10 Years					M			
	Required Proficiency Level								
	Candidates must demonstrate overall proficiency at this level	3	3	3	3	3	2	2	2
	Relevant Experience Evidence								
1	Implement Rail Safety Management programs and policies						M	M	M
2	Participate in operational Risk Management						M	M	M
3	Schedule and deliver Rail Safety Inductions and briefings						M	M	M

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Corporate Rail Safety Manager - Support Services (Path 1)	Corporate Rail Safety Manager - Support Services (Path 2)	Project Rail Safety Manager (Path 1)	Project Rail Safety Manager (Path 2)	Project Rail Safety Manager (Path 3)	Project Rail Safety Coordinator (Path 1)	Project Rail Safety Coordinator (Path 2)	Project Rail Safety Coordinator (Path 3)
4	Coordinate the implementation of the drug and alcohol test schedule						M	M	M
5	Compile statistical information for reports						M	M	M
6	Respond and investigate rail safety occurrences						M	M	M
7	Conduct rail safety inspections and participate in rail safety audits						M	M	M
8	Coordinate Worksite Protection Management resources						M	M	M
9	Develop and approve Project / Rail Safety Management Systems	M	M	M	M	M			
10	Develop, review and / or approve Safety Risk Management methods and / or strategies	M	M						
11	Develop Project specific Rail Safety Risk Management methods and / or strategies			M	M	M			
12	Implementation of relevant Safety Interface Agreements			M	M	M			
13	Participate in development of Safety Interface Agreements	M	M						
14	Development and implementation of Project specific Rail Safety Worker Fitness for Work and Competency Management strategies	M	M	M	M	M			
14.1	Health and fitness management methods	M	M	M	M	M			
14.2	Drug and Alcohol management methods	M	M	M	M	M			
14.3	Fatigue management methods	M	M	M	M	M			
14.4	Competency management methods	M	M	M	M	M			
15	Manage human factors	M	M	M	M	M			

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Corporate Rail Safety Manager - Support Services (Path 1)	Corporate Rail Safety Manager - Support Services (Path 2)	Project Rail Safety Manager (Path 1)	Project Rail Safety Manager (Path 2)	Project Rail Safety Manager (Path 3)	Project Rail Safety Coordinator (Path 1)	Project Rail Safety Coordinator (Path 2)	Project Rail Safety Coordinator (Path 3)
16	Develop and review Organisational and Project specific notifiable rail safety occurrences management methods, including investigations processes	M	M						
17	Respond to notifiable rail safety occurrences			M	M	M			
18	Investigate rail safety occurrences			M	M	M			
19	Lead rail safety audits	M	M	M	M	M			
20	Produce statistical rail safety reports	M	M	M	M	M			
21	Management of RTO accreditation requirements	M	M	M	M	M			

John Holland Competency Matrices

4.3.5 Engineering and Trade Roles

The following Matrices identify Engineering and Trade roles which are required to have AQF qualifications in support of their role.

4.3.5.1 Signalling and Communications Engineering Roles Matrix

NOTE: Competency certification for domain specific aspects may be required to be obtained from the Railway Transport Owner, as detailed in Section 4.2 RTO Matrices.

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track	Senior Signal Engineer (includes Design, Field, Construction)	Signal Design Engineer	Signal Designer	Assistant Signal Designer	Signal Project Engineer	Signal Project Manager	Signal Project Assistant	Signal Engineer - Maintenance / Construction	Control Systems Engineer	Communications Engineer
	Rail Safety Worker		Project specific determination required									
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)		Cat 1									
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)			Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3
	Competency requirements											
CPCCOHS1001A	Work Safely in the construction industry		M	M	M	M	M	M	M	M	M	M
TLIF2080C	Safely access the rail corridor		M	M	M	M	M	M	M	M	M	M
TLIF2010A	Apply fatigue management strategies**	X	M	M	M	M	M	M	M	M	M	M
TLID1001A	Shift materials safely using manual handling methods**	X	M	M	M	M	M	M	M	M	M	M

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track	Senior Signal Engineer (includes Design, Field, Construction)	Signal Design Engineer	Signal Designer	Assistant Signal Designer	Signal Project Engineer	Signal Project Manager	Signal Project Assistant	Signal Engineer - Maintenance / Construction	Control Systems Engineer	Communications Engineer
CPCBC4002A	Operational Safety, Quality & Environmental Risk Management		O	O	O	O	O	O		O	O	
BSBOHS404B	Strategic Safety, Quality & Environmental Risk Management		O				O	O		O		
3268	Safety Awareness Assessment – Development		O	O	O	O	O	O	O	O	O	O
JHGRP032	Environmental Awareness / Spill Kits		O	O	O	O	O	O	O	O	O	O
JHGRP033	JH Rail Isolation procedures		M	M			M	M		M	M	
JHGRP037	Work Safely at Heights Awareness		O				O			O		
JHGP041	Excavation permits		M				M	M		M		
JHGP042	Hot works Permit											
RIIOHS202	Enter and Work in Confined spaces		O							O		
	AQF Qualifications											
	Certificate III (or equivalent) in Electrical, Communications, Information Technology or similar discipline					M*		M*	M*			
	Certificate IV in Electrical - Rail Signalling (or equivalent)					M*		M*	M*			
	Certificate IV (or equivalent) in Electrical, Communications, Information Technology or similar technology					M*		M*	M*			
	Post Graduate Diploma Railway Signalling and Telecommunications				M*							

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track	Senior Signal Engineer (includes Design, Field, Construction)	Signal Design Engineer	Signal Designer	Assistant Signal Designer	Signal Project Engineer	Signal Project Manager	Signal Project Assistant	Signal Engineer - Maintenance / Construction	Control Systems Engineer	Communications Engineer
	Bachelor of Engineering Degree (Electrical, Communications or similar technology)		M	M			M			M	M	M
	Diploma Systems Engineering				M*							
	Work in Live Locations		M	O	O	O	O	O	M	M	O	O
	Work Experience Records		M	M	M	M	M	M	M	M	M	M

John Holland Competency Matrices

4.3.5.2 Signalling and Communications Technician Roles Matrix

NOTE: Competency certification for domain specific aspects may be required to be obtained from the Railway Transport Owner, as detailed in Section 4.2 RTO Matrices.

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Signal Electrician / Maintainer	Signal Mechanical and Electrical - Maintenance / Construction	Signal Tester	Signal Mechanical - Maintenance / Construction	Control System Technician / Technical Officer	Signals Trades / Assistants	Signal Design Drafting CAD Operator	Signal Design Document Administrator	Signals Trades - Electrician	Assistant Signal Sectioner	Signals Cable Jointing
	Rail Safety Worker		Project specific determination required										
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)		Cat 1	Cat 1	Cat 1	Cat 1							
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)						Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3
	Competency requirements												
CPCCOHS1001A	Work Safely in the construction industry		M	M	M	M	M	M	M	M	M	M	M
TLIF2080C	Safely access the rail corridor		M	M	M	M	M	M	M	M	M	M	M
TLIF2010A	Apply fatigue management strategies	X	M	M	M	M	M	M		M	M	M	M
TLID1001A	Shift materials safely using manual handling method	X	M	M	M	M	M	M			M	M	M
CPCCBC4002A	Operational Safety, Quality & Environmental Risk Management		O	O	O	O							

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Signal Electrician / Maintainer	Signal Mechanical and Electrical - Maintenance / Construction	Signal Tester	Signal Mechanical - Maintenance / Construction	Control System Technician / Technical Officer	Signals Trades / Assistants	Signal Design Drafting CAD Operator	Signal Design Document Administrator	Signals Trades - Electrician	Assistant Signal Sectioner	Signals Cable Jointing
BSBOHS404B	Strategic Safety, Quality & Environmental Risk Management		O										
003268	Safety Awareness Assessment – Development		O	O	O	O	O	O	O	O	O	O	O
JHGRP032	Environmental Awareness / Spill Kits												
JHGRP033	JH Rail Isolation procedures		M	M	M								
JHGRP037	Work Safely at Heights Awareness		O	O	O	O					O	O	O
JHGP041	Excavation permits		M	M		M							M
JHGP042	Hot works Permit		O	O		O					O		O
RIIOHS202	Enter and Work in Confined spaces		O	O		O					O		O
	AQF Qualifications												
	Certificate III Transport and Logistics (Signal Mechanical)		O	M*		M							
	Electrical Licence		XX		XX						M		
	Certificate III (or equivalent) in Information Technology			M*									
	Certificate III (or equivalent) in Electrical or Electrotechnology or equivalent			M*							M		
	Certificate III (or equivalent) in Electronics and Communications			M*									

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Signal Electrician / Maintainer	Signal Mechanical and Electrical - Maintenance / Construction	Signal Tester	Signal Mechanical - Maintenance / Construction	Control System Technician / Technical Officer	Signals Trades / Assistants	Signal Design Drafting CAD Operator	Signal Design Document Administrator	Signals Trades - Electrician	Assistant Signal Sectioner	Signals Cable Jointing
	Certificate IV in Electrical - Rail Signalling (or equivalent)		M				M*						
	Certificate IV (or equivalent) in Information Technology						M*						
	Certificate IV (or equivalent) in Electrical						M*						
	Certificate IV (or equivalent) in Electronics and Communications						M*						
	Industry Specific Training for Cable jointing or Linesman or Rack wiring							M					
	Work in Live Locations		M	M	M	M	O	O			O		
	Electric traction corridor induction		O	O	O	O	O	O	O	O	O	O	O
	Work Experience Records		M	M	M	M	M	M	M	M	O		

John Holland Competency Matrices

4.3.5.3 Examine and Maintain Structures Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Structures Maintainer - Timber	Structures Maintainer - Steel	Structures Maintainer - Concrete/Masonry	Structures Examiner - Timber	Structures Examiner - Steel	Structures Examiner - Concrete/Masonry
	Rail Safety Worker	Project specific determination required					
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)						
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3
	Competency requirements						
CPCCOHS1001A	Work Safely in the construction industry	M	M	M	M	M	M
TLIF2080C	Safely access the rail corridor	M	M	M	M	M	M
CPCCBC4002A	Operational Safety, Quality & Environmental Risk Management	O	O	O	O	O	O
003268	Safety Awareness Assessment – Development	O	O	O	O	O	O
TLI21311	Certificate II in Rail Infrastructure - Structures	M	M	M	M	M	M
TLIB2096A	Repair Concrete/Masonry structures			M			M
TLIB2082A	Repair Steel Structures		M			M	
TLIB2081A	Repair Timber Structures	M			M		
TLI32111	Certificate III in Rail Structures				M	M	M
TLIB3098A	Examine Concrete/Masonry Structures						M
TLIB3088A	Examine Steel Structures					M	
TLIB3087A	Examine Timber Structures				M		

John Holland Competency Matrices

4.3.5.4 Construct and Install Overhead Wiring Roles Matrix

NOTE: Competency certification for domain specific aspects may be required to be obtained from the Railway Transport Owner, as detailed in Section 4.2 RTO Matrices.

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	OHW Superintendent	OHW Supervisor	OHW Linesman	OHW Assistant	OHW Labourer	OHW Apprentice
	Rail Safety Worker		Y	Y	Y	Y	Y	Y
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)							
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)		Cat 3	Cat 3	Cat 3	Cat 3	Cat 3	Cat 3
	Competency requirements							
CPCCOHS1001A	Work Safely in the construction industry (White Card)		M	M	M	M	M	M
TLIF2080C	Safely access the Rail corridor (work safely in the Rail corridor) - eg RISI - TSA							
TLIF2010A	Apply fatigue management strategies	X	X	X	X	X	X	X
TLIF1001A	Follow occupational health and safety procedures	X					X	
TLIW2001A	Operate under track protection rules	X					X	
TLIB1028A	Maintain and use hand tools	X					X	
TLID1001A	Shift materials safely using manual handling methods	X					X	
TLIU2008A	Apply environmental procedures to rail infrastructure	X					X	
TLIE1003A	Participate in basic workplace communications	X					X	
RIIWS204D	Working Safely at Heights		O	O	O	O	O	O

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	OHW Superintendent	OHW Supervisor	OHW Linesman	OHW Assistant	OHW Labourer	OHW Apprentice
TLIF3003	Implement and monitor work health and safety procedures		M	M	O			
'003268	Safety Awareness Assessment – Development		O	O	O	O	O	O
	Electrical Supply Industry qualification							
UET30309	Certificate III in ESI - Rail Traction (or Equivalent)		M	M	M	O	O	O
UET30109	Certificate III in ESI - Transmission (or Equivalent)		O	O	O	O	O	O
UET30209	Certificate III in ESI - Distribution (or Equivalent)		O	O	O	O	O	O
	Licences and/or Tickets required							
002255	Electrical Safety Inductions (ESI's Annually) (or Equivalent)		M	M	M	M	O	M
UETDRRF08B	Perform EWP controlled Descent Escape		M	M	M	M	O	M
Need Code	Resuscitation (CPR)		M	M	M	M	O	M
UETDRRF06B	Perform Rescue from a Live LV panel		M	M	M	M	O	M
UETDRRF02B	Perform Pole Top Rescue		M	M	M	M	O	M
UETDRRF03B	Perform EWP Rescue		M	M	M	M	O	M
	WorkCover High Risk License - Elevating Work Platform (EWP)		M	M	M	O	O	M
	WorkCover High Risk License for Rigging (RB, RI or RA)		O	O	O	O	O	O
	WorkCover High Risk License for Dogging (DG)		O	O	O	O	O	O
<p>O** Must hold if operating this machinery</p> <p>* Needs to hold the appropriate Rim Operator Role and national ATTP Role before accessing site</p> <p>*** Must hold a category 1 Rail Medical if Operating Ontrack equipment & The UOC for that equipment</p>								

John Holland Competency Matrices

4.3.5.5 Construct and Maintain Sub Stations Roles Matrix

NOTE: Competency certification for domain specific aspects may be required to be obtained from the Railway Transport Owner, as detailed in Section 4.2 RTO Matrices.

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Substation Technician	High Voltage Switching	High Voltage Cable Joining
	Rail Safety Worker		Y	Y	Y
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)				
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)		Cat 3	Cat 3	Cat 3
	Competency requirements				
CPCCOHS1001A	Work Safely in the construction industry (White Card)		M	M	M
TLIF2080C	Safely access the Rail corridor(work safely in the Rail corridor) - eg RISI - TSA		M	M	M
TLIF2010A	Apply fatigue management strategies**	X	M	M	M
TLIF1001A	Follow occupational health and safety procedures**	X	M	M	M
TLIW2001A	Operate under track protection rules **	X	M	M	M
TLIB1028A	Maintain and use hand tools**	X	M	M	M
TLID1001A	Shift materials safely using manual handling methods**	X	M	M	M
TLIU2008A	Apply environmental procedures to rail infrastructure**	X	M	M	M
TLIE1003A	Participate in basic workplace communications**	X	M	M	M

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Substation Technician	High Voltage Switching	High Voltage Cable Joining
	Electrotechnology qualification				
UET30409	Certificate III in ESI - Cable Jointing				M
UET30309	Certificate IV in Electrotechnology		M		
	Electrotechnology units of competence				
UETTDRSB03B	Install and maintain substation DC systems		M		
UETTDRSB13B	Install HV plant and equipment		M		
UETTDRSB02B	Carry out substation inspection		M		
UETTDRSB05B	Maintain HV power system - transformers and instrument transformers		M		
UETTDRSB04B	Maintain HV power system breakers		M		
UETTDRSB01B	Diagnose and rectify faults in power system substation environment		M		
UETTDRSB06B	Install high current DC switchgear and equipment		M		
UETTDRSB07B	Maintain high current DC switchgear and equipment		M		
UETTDRIS07B	Sample test filter and reinstate insulating oil		M		
UEPOPS349B	Operate Local HV Switchgear			M	
UEPOPS428B	Develop High Voltage Switching Programs			M	
UEPOPS456A	Perform Switching to a Switching Program			M	
UEPOPS525A	Coordinate and direct switching program			M	
UETTDRIS16A	Working safely near live electrical apparatus			M	
UETTDRIS44A	Perform HV field switching operation to a given schedule			M	

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Substation Technician	High Voltage Switching	High Voltage Cable Joining
UETTDRSB39A	Perform power system substation switching operation to a given schedule			M	
UETTDRI548A	Develop high voltage switching schedule			M	
UETTDRI550A	Coordinate power system permit procedures			M	
UETTDRI551A	Coordinate and direct power system switching schedules			M	
UETTDRI567A	Solve problems in energy supply network equipment			M	
	Licences and/or Tickets required				
	High Voltage Switching Operations			M	
	Industry ESI's (Annually)		M		
	Resuscitation		M		
	Releasing a person from live LV electrical apparatus		M		

John Holland Competency Matrices

4.3.5.6 Training Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Training Manager	Rail Technical Trainer	Rail Welding Trainer	Plant Operator Trainer	General Rail Trainer	Training Coordinator	Training Administrator	Instructional Designer
	Rail Safety Worker		Project specific determination required							
JHGRP005	Medical Requirements Cat 1 - Safety Critical (>60 years of age = yearly; 50 - 60 = every 2 years; Less than 50 every 5 years)			**	**	Cat 1				
JHGRP006	Cat 3 - Non Safety Critical (on commencement of duty; >40 years of age = every 5 years)		Cat 3	Cat 3	Cat 3		Cat 3	Cat 3	Cat 3	Cat 3
Competency Codes	Essential Education & Training									
	Diploma or higher in Business / Management or related		M							
	Certificate IV in Training and Assessment		M	M	M	M	M			
	Certificate II Rail Infrastructure - TLI			M	M	M	O			
	Certificate III - TLI			M	O	O				
CPCCB4002A	Operational Safety, Quality & Environmental Risk Management		O	O	O	O	O			
003268	Safety Awareness Assessment – Development					O				
	Essential Relevant Experience in Similar position									
RNQ035	2 YEARS						M			
RNQ036	3 YEARS			M	M	M				
RNQ037	5 YEARS		M							
	> 7 YEARS		M							
	Competency requirements									

John Holland Competency Matrices

Competency Management Mandatory & Optional Competencies, Education & Training		Equivalent Unit Accepted as per Track Business Rules	Training Manager	Rail Technical Trainer	Rail Welding Trainer	Plant Operator Trainer	General Rail Trainer	Training Coordinator	Training Administrator	Instructional Designer
CPCCOHS1001A	Work Safely in the construction industry or equivalent		M	M	M	M	M	M	M	M
TLIF2080C	Safely Access the Rail Corridor		M	M	M	M	M	O	O	M
TLIF2010A	Apply fatigue management strategies**	X	M	M	M	M	M	M	M	M
TLIW2001A	Operate under track protection rules **	X		M	M	M	M			
TLIF1001A	Follow occupational health and safety procedures**	X		M	M	M	M			
TLIB1028A	Maintain and use hand tools**	X		M	M	M	M			
TLID1001A	Shift materials safely using manual handling methods**	X		M	M	M	M			
TLIB2085A	Apply track fundamentals**	X		M	M	M	M			
TLIE1003A	Participate in basic workplace communications**	X		M	M	M	M			
TLIU2008A	Apply environmental procedures to rail infrastructure **	X		M	M	M	M			
TLIE2008A	Process workplace documentation**	X		M	M	M	M			
TLIW3015A	Weld rail using aluminothermic welding process				M					
TLIW3035A	Heat and cut materials using oxy-LPG equipment for the rail industry				M					
TLIC2058A	Travel medium or heavy self-propelled on-track equipment					M				
TLIC2059A	Propel and operate light on-track equipment					M				

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4.3.5.7 Survey, Architect and Certifier Roles Matrix

Competency Management Mandatory & Optional Competencies, Education & Training		Survey Manager Path 1	Survey Manager Path 2	Surveyor Path 1 Path 2	Surveyor Path 2 Path 2	Survey Assistant	Architectural	DDA Certifier	BCA Certifier
Rail Safety Worker		To be determined by the Project							
	Essential Relevant Experience								
	3 YEARS			M	M				
	5 YEARS	M							
	7 YEARS		M						
Competency Code	Essential Education & Training								
	Degree	M		M			P		
	Tertiary Education		M*		M*	O	M*		
	Advanced Diploma		M*		M*	O	M*		
	Diploma		M*		M*	O	M*		
CPP40811	Cert IV in Access Consulting							M	
	Accredited certifier								
A1	building surveying grade 1								M*
A2	building surveying grade 2								M*
A3	building surveying grade 3								M*
A4	building inspector								M*
B1	subdivision certification								M*
C1	private road and drainage design compliance								M*
C2	private road and drainage construction compliance								M*
C3	Storm water management facilities design compliance								M*
C4	Storm water management facilities construction compliance								M*

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Competency Management Mandatory & Optional Competencies, Education & Training		Survey Manager Path 1	Survey Manager Path 2	Surveyor Path 1 Path 2	Surveyor Path 2 Path 2	Survey Assistant	Architectural	DDA Certifier	BCA Certifier
C5	subdivision works & building works (location of works								M*
C6	subdivision road and drainage construction compliance								M*
C7	structural engineering compliance								M*
C8	electrical services compliance								M*
C9	mechanical services compliance								M*
C10	fire safety engineering compliance								M*
C11	energy management compliance (Classes 3, 5 to 9)								M*
C12	geotechnical engineering compliance								M*
C13	acoustics compliance								M*
C14	building hydraulics compliance								M*
C15	Storm water compliance								M*
C16	specialty hydraulic services compliance								M*

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4.4 Country Regional Network (CRN) Matrices

To be completed

4.4.1 CRN Maintenance Roles

To be completed.

5 Rail Safety Worker

5.1 Identifying rail safety work under the RSNL

Rail Safety Work

The RSNL identifies a rail safety worker (s.4) as any individual who has carried out, is carrying out, or is about to carry out rail safety work (s.8(1)), which includes:

- a) driving or despatching rolling stock or any other activity which is capable of controlling or affecting the movement of rolling stock;
- b) signalling (and signalling operations), receiving or relaying communications or any other activity which is capable of controlling or affecting the movement of rolling stock;
- c) coupling or uncoupling rolling stock;
- d) maintaining, repairing, modifying, monitoring, inspecting or testing -
 - i. rolling stock, including checking that the rolling stock is working properly before being used; or
 - ii. rail infrastructure;
- e) installation of components in relation to rolling stock;
- f) work on or about rail infrastructure relating to the design, construction, repair, modification, maintenance, monitoring, upgrading, inspection or testing of the rail infrastructure or associated works or equipment, including checking that the rail infrastructure is working properly before being used;
- g) installation or maintenance of:
 - i. a telecommunications system relating to rail infrastructure or used in connection with rail infrastructure; or
 - ii. the means of supplying electricity directly to rail infrastructure, any rolling stock using rail infrastructure or a telecommunications system;
- h) work involving certification as to the safety of rail infrastructure or rolling stock or any part or component of rail infrastructure or rolling stock;
- i) work involving the decommissioning of rail infrastructure or rolling stock or any part or component of rail infrastructure or rolling stock;
- j) work involving the development, management or monitoring of safe working systems for railways;
- k) work involving the management or monitoring of passenger safety on, in or at any railway.

An individual is considered to be a rail safety worker if they perform activities that fall into any of the categories listed above, regardless of whether this work constitutes all or just part of their role. A rail transport operator must identify the activities that might be rail safety work, when preparing a safety management system (SMS).

Identifying rail safety workers

To determine whether a person should be classified as a rail safety worker, an RTO needs to undertake a risk assessment of their operations to identify the roles and responsibilities that might be relevant to, or associated with, rail safety in accordance with s.8(1) of the RSNL.

This should be performed as part of the processes used to develop and review the organisation's SMS.

Defining 'rail safety work'

The RTO should identify the scope and limits of rail safety work within their railway operations by:

1. undertaking a task analysis of each role within the organisation and identifying the technical and non-technical knowledge and skills required to perform each successfully (the focus should be on tasks, rather than formal job titles); and
2. ascribing each task as either 'rail safety work' or 'non-rail safety work' depending on:
 - a. the nature of the tasks performed; and

- b. the location where the work is to be performed; and
- c. whether the tasks come within the scope of s.8(1).

Any person who is expected to carry out a task identified as rail safety work (or that could potentially be so deemed), based on the above assessment, should be classified as a 'rail safety worker'.

Once that determination has been made, operators can implement control measures to manage the risks of the rail safety work. Figure 1 outlines this process.

If an individual is identified as a potential rail safety worker, it is the responsibility of the operator to determine how they should manage the risks and ensure the safety of such a person. This means they need to consider how they will address the health, drug and alcohol, fatigue, competency, and training needs of these workers.

ONRSR expects that the operator will retain evidence to document the decision-making process used to identify the controls applied to various rail safety worker roles. This should include appropriate assessment and management strategies to demonstrate that the risks are being addressed, so far as is reasonably practicable (SFAIRP).

The Rail Safety Worker Checklist

Below is a simple checklist to assist in the identification of a rail safety worker, as per the provisions of section 8(1) of the RSNL.

The list is not exhaustive, and it is the responsibility of the RTO to determine the activities likely to be considered to be rail safety work within their own operations.

If the answer to any of these questions is 'yes', the person in question is a rail safety worker, whether the activity in question constitutes all of their role or just a part, and they must be covered by the RTO's SMS.

However, it is the operator's responsibility to make that determination.

Notes:

References in the table below to 'person' should be assumed to include employees, contractors, and other parties carrying out work for the RTO (as per s.119)

References to 'testing' should be assumed to include 'calibration'

Questions		RSNL	
1.	Is the person responsible for driving or dispatching rolling stock?	Yes/No	s.8(1)(a)
2.	Does the person carry out any activity which is capable of controlling or affecting the movement of rolling stock ?	Yes/No	s.8(1)(a)
3.	Does the person carry out any signalling operations?	Yes/No	s.8(1)(b)
4.	Is the person responsible for receiving or relaying communications or any other activity which is capable of controlling or affecting the movement of rolling stock?	Yes/No	s.8(1)(b)
5.	Is the person responsible for coupling or uncoupling rolling stock ?	Yes/No	s.8(1)(c)
6.	Is the person responsible for maintaining, repairing, or modifying rolling stock or rail infrastructure that may have an impact upon (or is associated with) the safety of operations?	Yes/No	s.8(1)(d)
7.	Is the person responsible for monitoring rolling stock or rail infrastructure that may have an impact upon (or is associated with) the safety of operations?	Yes/No	s.8(1)(d)
8.	Is the person responsible for inspecting or testing rolling stock or rail infrastructure that may have an impact upon (or is associated with) the safety of operations?	Yes/No	s.8(1)(d)
9.	Is the person responsible for checking that rolling stock is working properly before being used?	Yes/No	s.8(1)(d)
10.	Does the person install components of rolling stock?	Yes/No	s.8(1)(e)
11.	Does the person design, construct, repair, modify, maintain, upgrade, inspect, or test rail infrastructure or associated works or equipment while working within a danger zone ?	Yes/No	s.8(1)(f)
12.	Does the person install or maintain a telecommunications system relating to rail infrastructure or used in connection with rail infrastructure that may have an impact upon (or is associated with) the safety of operations?	Yes/No	s.8(1)(g)
13.	Does the person install or maintain the electricity supply for rail infrastructure, any rolling stock using rail infrastructure or a telecommunications system that may have an impact upon (or is associated with) the safety of operations?	Yes/No	s.8(1)(g)
14.	Does the person carry out any work involving certification of the safety of rail infrastructure or rolling stock or any part or component of rail infrastructure or rolling stock?	Yes/No	s.8(1)(h)
15.	Does the person carry out any work involving the decommissioning of rail infrastructure or rolling stock or any part or component of rail infrastructure or rolling stock?	Yes/No	s.8(1)(i)
16.	Does the person carry out any work on the development, management or monitoring of safe working systems for railways?	Yes/No	s.8(1)(j)
17.	Does the person carry out any work involving the management or monitoring of passenger safety on, in or at any railway?	Yes/No	s.8(1)(k)

5.2 Example RSW Identification Guidelines

Project Role		Project Phase			Rail Safety Training	
		Design/Construct		Commission/Operate		
		Non-Rail Systems / Non-Rail Infrastructure	Rail Systems / Rail Infrastructure			
1. Designers (drafters and checkers)		Not RSW	Not RSW	Power is applied or Traction Power is applied or rolling stock used, or commissioning or system integration tests are about to be performed.	Not RSW	RSW Training not mandatory
2. Design approvers		Not RSW	All RSW		All RSW	RSW Training mandatory for RSWs
3. Project site construction workers (not in Hazard Zone)		Not RSW	Not RSW unless certifying Rail Infrastructure		Not RSW unless certifying Rail Infrastructure	RSW Training not mandatory
4. Project site construction workers (in Hazard Zone)		Not RSW	Not RSW unless certifying Rail Infrastructure		Not RSW unless certifying Rail Infrastructure	RSW Training mandatory from defined time
5. Site and Office based Construction Managers, Supervisors, Superintendents, Engineers and Commissioning Engineers		Not RSW	All RSW		All RSW	RSW Training mandatory for RSWs
6. Key Support Roles (Systems Engineering & Safety Assurance, Quality, Environment, Safety)		Not RSW	Some RSW		Some RSW	RSW Training mandatory for RSWs
1	Designers are not RSWs (unless they are design approvers in the next category below). Any designers who need to enter the Danger / Hazard Zone (after the Defined Time) must sign on with site worksite Protection Officer to ensure a controlled safe access to site. Rail Safety Training is therefore not mandatory.					

2	Design Approvers for Rail Systems are considered RSWs. They must carry their RIW Card at all times and sign on with worksite Protection Officer to ensure a controlled safe access if they require access to the Hazard Zone. Design Approvers for Non-Rail systems are not RSWs and have their competence controlled through the engineering in design competency requirements.
3	All project site construction workers who do not work in the Danger / Hazard Zone are not RSWs as they do not certify construction of rail infrastructure. However, as they are required to work near the Danger / Hazard Zone (eg on other public works) they need Track Safety Awareness Training prior to the defined point in time, due to their constant proximity to the Danger / Hazard Zone and to ensure they understand the need to be able to identify and stay out of the Danger / Hazard Zone.
4	All project site construction workers who work in the Danger / Hazard Zone are not RSWs as they do not certify construction of rail infrastructure. However, they will need Rail Safety Training prior to the Defined Time when traction power is switched on or rolling stock is used. They must carry their RIW Card at all times and sign on with worksite Protection Officer to ensure a controlled safe access if they require access to the Danger / Hazard Zone.
5	Site and Office based Construction Management and Engineers are RSWs. They must carry their RIW Card at all times and if require access to Danger / Hazard Zone sign on with site worksite Protection Officer to ensure a controlled safe access to site.
6	Not all Key Support Roles involving Quality or Safety are RSWs. Environmental management roles are not RSW as they do not make decisions which may impact on completed rail infrastructure. Safety and Quality manager roles are RSW as they will be making safety related decisions related to quality and safety of rail systems and are expected to frequent, and exercise due diligence over, the Danger / Hazard Zone. They will need Rail Safety Training prior to the Defined Time. They must carry their RIW Card at all times and sign on with worksite Protection Officer to ensure a controlled safe access if they require access to the Hazard Zone.
Note 1: Rail Safety Training is the training required to understand the rules of safely accessing and working within the rail corridor or Danger / Hazard Zone. It includes the SMS and legislated RSW requirements such as Fatigue Management, Drug & Alcohol rules, Id requirements...etc. It also covers the competency requirements as per a Project or Rail Transport Operator's RSW competency management plan.	
Note 2: Danger / Hazard Zone is the area within the corridor defined in the SMS. To access the Danger / Hazard Zone all workers will be required to report to the worksite protection officer who will deliver a safety pre-work briefing which will incorporate site safety risks and controls for rolling stock and workers separation. Safety briefing may also involve assessing risk associated with traction power, concurrent works and the work environment; and approved controls such as possession, isolation, lockout, sign posting, Pre-Work Briefing etc.	
Note 3: Rail Safety Awareness Training is the minimum training required to ensure workers who may work near a Danger / Hazard Zone. This training covers risks and controls for workers when working around rolling stock.	
Note 4: RIW Card is the card that will be used by all rail industry workers. The card will include photo identity, role competency/qualification, and medical details as per the relevant competency management plan/requirements.	
Note 5: Medical details refers to the category of medical undertaken in accordance with requirements specified in the National Standard for Health Assessment of Rail Safety Workers.	

5.3 Example RSW Identification Analysis

TASK NO.	TASK	DISCIPLINE	TASK DESCRIPTION	Rail Safety Work?	JUSTIFICATION STATEMENT
1	Project Director	Project Wide	Lead the successful delivery of the project with multiple work streams in accordance with design requirements, time and cost constraints, commercial, HR, safety, quality, environmental and community targets. Have overall accountability for the construction of a safe and reliable light rail network.	YES	Project Director is ultimately accountable for construction of a safe and reliable rail infrastructure on this Project, as the position governs and oversees the overall safe and reliable construction of the new rail infrastructure. Project Director will also oversee the implementation of any site specific rules regarding rolling stock operations during the delivery phase. <i>Tasks fit in the following sections of the RSNL: s.8(1)(h); s.8(1)(j)</i>
2	Environmental Roles. Manager and Coordinators	Project Wide	Environmental Manager: Ensure project compliance with relevant environmental legislation, regulations, contractual obligations and Environmental procedures through the development, implementation and maintenance a project wide environmental management system. Environmental Coordinator: Coordinate the implementation of project environment programs to ensure adherence with relevant environmental legislation, regulations, contractual obligations and relevant Environmental procedures.	NO	The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.
3	Safety Roles. Manager and Coordinators	Project Wide	Safety Manager: Implement and control Safety Management System requirements, strategies and initiatives across a workplace and report progress to the Project Manager and Project leadership team. Manage and Coordinate safety with regards to rolling stock and construction activities on site.	YES	Project Safety Managers and Coordinators will manage and coordinate site specific rules regarding rolling stock activities which will be controlling the movement of rolling stock. These roles will also be involved in development, management as well as review and monitoring activities of worksite protection management rules (safe working systems) during

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TASK NO.	TASK	DISCIPLINE	TASK DESCRIPTION	Rail Safety Work?	JUSTIFICATION STATEMENT
			Safety Coordinator: Establish procedures and implement and monitor programs and site specific rules to provide a safe and healthy working environment for all personnel. Whilst assisting the Project Leadership Team in developing HSE strategies and training for the workplace.		track construction activities. <i>Tasks fit in the following sections of the RSNL: S.8(1)(a); S.8(1)(j)</i>
4	Designers (Drafters, Checkers)	Civil Infrastructure	Design Drafter: Qualified civil building designers who will convert engineering drawings and plans into required civil structural design drawings. Design Checker: Checks all submitted draft civil designs to ensure conformance to all company and/or contractually specified standards for drafting practice before design is submitted to the Design Approver.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
5	Design Approvers	Civil Infrastructure	Performs a complete and final design analysis to ensure that the design has followed authorised processes, meets requirements and is ready for acceptance by the Client Independent Design Verifiers.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
6	Project site construction workers/labourers	Civil Infrastructure	Construction workers and tradespersons employed to carry out physical work to build civil infrastructure. Their completed work is always certified / checked by their supervisor.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
7	Site and Office based Project Construction	Civil Infrastructure	Construction Managers: Control and coordinate all site-based construction activities to ensure that assigned	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in</i>

TASK NO.	TASK	DISCIPLINE	TASK DESCRIPTION	Rail Safety Work?	JUSTIFICATION STATEMENT
	Managers, Superintendents, Certifiers, Supervisors and Engineers		<p>construction works are completed to the client's satisfaction and to meet quality, time and profit objectives.</p> <p>Site Engineers: Provide onsite engineering services and technical support to ensure short term planning and programming of works is completed in conjunction with the site supervision staff.</p> <p>Supervisors: Inspect, Certify and Coordinate on-site work labouring activities to achieve suitable outcomes as per Site Engineers instructions.</p> <p>General Superintendent: Run the day-to-day operations on the construction site to ensure civil infrastructure is built to the required quality standards and site safety of workers and sub-contractors is achieved.</p>		<i>any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
8	Quality Manager	Civil Infrastructure	Develop, recommend and implement a quality assurance programme to ensure statutory and contractual compliance with quality requirements on the project.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
9	Quality Coordinators	Civil Infrastructure	Support the implementation and monitoring of the quality objectives, requirements, risks and other issues that may adversely impact the surety of successful project delivery. Assist with the inspection and test requirements.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>

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TASK NO.	TASK	DISCIPLINE	TASK DESCRIPTION	Rail Safety Work?	JUSTIFICATION STATEMENT
10	Designers (Drafters, Checkers)	Rail Systems/ Rail Infrastructure	<p>Design Drafter: Qualified rail infrastructure designers who will convert engineering drawings and plans into required rail infrastructure design drawings.</p> <p>Design Checker: Checks all submitted draft rail infrastructure designs to ensure conformance to all company and/or contractually specified standards for drafting practice before design is submitted to the Design Approver.</p>	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
11	Design Approvers	Rail Systems/ Rail Infrastructure	Performs a complete and final design analysis to ensure that the design has followed authorised processes, meets requirements and is ready for acceptance by the Client Independent Design Verifiers.	YES	Although Project Design Approvers may not be performing work inside Project Hazard Zone, they will be accountable for providing a final approval before implementation of the designs relevant to rail infrastructure. Design approvers are also responsible for certification of the safety of rail infrastructure. <i>Tasks fit in the following sections of the RSNL: S.8(1)(f); s.8(1)(h)</i>
12	Project site construction workers/labourers	Rail Systems/ Rail Infrastructure	A rail infrastructure worker employed to carry out physical work to build rail infrastructure. Their completed work is always certified / checked by their Supervisor.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>
13	Site and Office based Project Construction Managers, Superintendents, Certifiers, Supervisors and Engineers	Rail Systems/ Rail Infrastructure	<p>Construction Managers: Control and coordinate all site-based construction activities to ensure that assigned construction works are completed to the client's satisfaction and to meet quality, time and profit objectives.</p> <p>Site Engineers: Provide onsite engineering services and</p>	YES	These senior Project roles will contain a range of tasks responsible for inspecting or testing of newly constructed rail infrastructure. Some of these roles may also be responsible for checking that rolling stock is working properly before being used prior to commissioning activities or supervising or certifying the installation of rolling stock components. These roles will also be responsible for the implementation of the design through construction methods and at times

TASK NO.	TASK	DISCIPLINE	TASK DESCRIPTION	Rail Safety Work?	JUSTIFICATION STATEMENT
			<p>technical support to ensure short term planning and programming of works is completed in conjunction with the site supervision staff.</p> <p>Supervisors: Inspect, Certify and Coordinate on-site work labouring activities to achieve suitable final outcome as per site engineers instructions.</p> <p>General Superintendent: Run the day-to-day operations on the construction site, to ensure rail infrastructure is built to the required quality standards and site safety of workers and sub-contractors.</p>		<p>these tasks may be carried out inside Project hazard zones. These roles linked to Comms, Signalling and Electrical will also install telecommunications, signalling and electrical system relating to rail infrastructure that may have an impact upon the safety of operations; and will be installing the electricity supply for rail infrastructure. Lastly, these roles will also be responsible for certification of the safety of rail infrastructure or in some cases rolling stock.</p> <p><i>Tasks fit in the following sections of the RSNL: s.8(1) (d, e, f, g, h)</i></p>
14	Systems Engineering & Safety Assurance	Rail Systems/ Rail Infrastructure	Perform a vital function of implementing a safety assurance process that systematically provides confidence that newly constructed rail infrastructure associated with CLR meets or exceeds safety engineering requirements as per IESM.	YES	<p>Rail Systems Engineers and Safety Assurance roles will be responsible for monitoring activities relevant to safe construction of rail infrastructure that may have an impact upon the safety of operations. These roles linked to design of rolling stock may also be responsible for checking that rolling stock is working properly before commissioning and testing. Lastly, as part of their safety assurance and senior engineering roles they will be responsible for work involving certification of the safety of rail infrastructure and in some cases rolling stock.</p> <p><i>Tasks fit in the following sections of the RSNL: s.8(1) (d, h)</i></p>
15	Quality and Completion Manager	Rail Systems/ Rail Infrastructure	Develop, recommend and implement a quality assurance programme to ensure statutory and contractual compliance with quality requirements on the project.	YES	<p>Project Quality Manager may be responsible for inspecting and ensuring that the testing of in some cases rolling stock or rail infrastructure is carried in accordance with an appropriate industry standard.</p>

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TASK NO.	TASK	DISCIPLINE	TASK DESCRIPTION	Rail Safety Work?	JUSTIFICATION STATEMENT
			Inspect and ensure that all testing is completed in accordance with industry standards.		<i>Tasks fit in the following sections of the RSNL: s.8(1)(d)</i>
16	Quality Coordinators	Rail Systems/ Rail Infrastructure	Support the implementation and monitoring of the quality objectives, requirements, risks and other issues that may adversely impact the surety of successful project delivery. Assist with the inspection and test requirements.	NO	<i>The work being performed by these roles are not considered as Rail Safety Work as they do not fit in any criteria specified in the Section 8 (1) of the Rail Safety National law 2012.</i>

5.4 Example RSW Register

Project Id. No.	Role	Surname	First Name	Staff /Workforce	Employee Number	Rail Safety Worker	Contact Details	RIWC No.	Date Required
	Accounts Administrator			Staff		No			
	Administration & Reception			Staff		No			
	Area Manager - North			Staff		No			
	Area Manager - South			Staff		No			
	Commercial Manager D&C			Staff		No			
	Communications Coordinator			Staff		No			
	Completions & Operational Readiness Manager			Staff		?			
	Completions Coordinator			Staff		No			
	Construction Manager			Staff		Yes			
	Contracts Administrator			Staff		No			
	Contracts Manager			Staff		No			
	D&C Project Director			Staff		Yes			
	Depot Integration Manager			Staff		?			
	Design Coordinator			Staff		No			
	Design Cost Planner (casual)			Staff		No			
	Design Expeditor/Planner Assistant			Staff		No			
	Design Manager			Staff		No			
	Design Support Engineer			Staff		No			
	Document Control			Staff		No			
	Draftsman			Staff		No			
	Engineering Manager			Staff		Yes			

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Project Id. No.	Role	Surname	First Name	Staff /Workforce	Employee Number	Rail Safety Worker	Contact Details	RIWC No.	Date Required
	Environmental & Approvals Manager			Staff		No			
	Environmental Coordinator			Staff		No			
	Environmental Officer			Staff		No			
	Finance Manager			Staff		No			
	General Superintendent			Staff		No			
	Graduate Engineer			Staff		No			
	Health & Safety Manager			Staff		Yes			
	HR Administrator			Staff		No			
	HR Advisor (HR Administrator provision)			Staff		No			
	HR/IR Manager			Staff		No			
	HV/OHL Manager			Staff		Yes			
	ICT Coordinator			Staff		No			
	ICT Design Manager			Staff		No			
	Permit Controller			Staff		No			
	Planning Manager			Staff		No			
	Project Administrator			Staff		No			
	Project Engineer			Staff		No			
	Quality & Completions Manager			Staff		No			
	Quality Officer - Rail			Staff		No			
	Rail Systems Manager			Staff		Yes			
	RAM Consultant			Staff		?			
	Safety Administrator			Staff		No			
	Safety Officer			Staff		Yes			

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Project Id. No.	Role	Surname	First Name	Staff /Workforce	Employee Number	Rail Safety Worker	Contact Details	RIWC No.	Date Required
	Senior Project Engineer			Staff		No			
	Site Engineer			Staff		No			
	Stakeholder & Communication Manager			Staff		No			
	Superintendent			Staff		No			
	Supervisor			Staff		No			
	Survey Manager			Staff		No			
	Surveyor			Staff		No			
	Systems & Safety Assurance Manager			Staff		Yes			
	Systems Integration Manager			Staff		?			
	Traffic & Transport Engineer			Staff		No			
	Undergraduate Engineer (casual)			Staff		No			
	Utilities Manager			Staff		No			
	Utilities Superintendent			Staff		No			