



Australian Government

Department of Education, Employment and Workplace Relations

PSPRAIL501A Operate within the regulatory framework for rail safety

Revision Number: 2

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Modification History

PSPRAIL501A Release 2: Layout adjusted. No changes to content.
PSPRAIL501A Release 1: Primary release.

Unit Descriptor

This unit covers the development and maintenance of up-to-date knowledge of the rail industry and the regulatory framework for rail safety, in order to develop industry relationships and operate effectively within the industry on behalf of the rail safety regulator. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

In the workplace, staff members must develop, maintain and apply up-to-date knowledge of the rail industry in order to continually improve services and safety outcomes. They must understand and use rail terminology; develop an understanding of railway infrastructure, railway technologies, railway operations and management, systems engineering and systems interfaces; and apply this in their regulatory roles. Staff members need to identify key participants in the rail industry, their relationships and their duties under rail safety legislation. In addition, they need a good understanding of key concepts and definitions included in the legislation in order to implement regulatory requirements and provide accurate information to industry operators.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop rail industry knowledge	1.1 Rail terminology and elements of railway systems are identified and clarified to ensure knowledge is up-to-date. 1.2 Railway technologies, infrastructure and interaction relating to the sphere of operation are researched and confirmed as current with experienced, senior or supervisory staff. 1.3 Key issues relating to railway operations and management, rail safety and systems interfaces are identified and their impact on rail safety regulation is determined in accordance with legislation.
2. Maintain currency in rail industry knowledge	2.1 Changes in rail industry operations and technology are monitored over time and their implications for safety regulation are identified and discussed within the work group. 2.2 Changes in rail safety regulatory requirements are monitored and available information, training and awareness sessions are accessed to maintain knowledge and skill base. 2.3 Regular contact and information exchange with other rail safety regulatory staff are undertaken to ensure consistent application of regulatory requirements.
3. Apply knowledge of rail industry standards	3.1 Rail safety operating principles are identified and confirmed. 3.2 Applicable current national and international standards, codes and local rules are identified and their relevance to rail safety regulation is confirmed. 3.3 Requirements of rail industry standards for use by rail transport operators are identified in the context of safety management systems and risk management. 3.3 Implications of using rail industry standards for rail safety compliance are explained as required, in accordance with industry needs.
4. Identify and use key principles underpinning rail safety regulation	4.1 Role, function and purpose of co-regulation in the rail industry are explained in the context of legislation and explanatory memorandum. 4.2 Role, function and purpose of safety management systems and accreditation are explained in the context of legislation and guidelines. 4.3 Functions and obligations of duty holders and their general duties are explained in the context of rail safety legislation.
5. Establish and maintain rail industry relationships	5.1 Rail industry organisations are identified and formal and informal lines of communications are established and maintained.

ELEMENT**PERFORMANCE CRITERIA**

- 5.2 Trust and confidence are gained and maintained through high standards of ethical practice.
- 5.3 Interests and requirements of the regulator are represented and promoted using strategies tailored to the particular industry organisation.
- 5.4 Feedback is obtained and used to improve services and regulatory outcomes.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills:

Look for evidence that confirms skills in:

- researching information related to the rail industry and rail safety regulation
- accessing and using rail safety industry standards
- developing and maintaining currency in rail industry knowledge
- communicating with others, involving the explanation of complex information relating to rail safety regulation
- networking and building relationships with a diverse range of rail industry organisations
- self-management to work ethically and in accordance with legislation
- using technology to conduct research, access industry standards, review changing industry information and network with others
- responding to diversity, including gender and disability
- applying environmental and occupational health and safety procedures when using computer technology and when networking in the field with rail industry operators

Required knowledge:

Look for evidence that confirms knowledge and understanding of:

- rail industry and rail industry terminology, including terminology used in technical standards
- changes in rail industry operations and technology with implications for rail safety regulation
- key principles and practices associated with railway operations
- relevance of national and international standards to the rail industry
- rail safety
- key concepts and definitions relating to rail safety regulation
- duty holders and their duties under rail safety legislation
- key participants in the rail industry.

Evidence Guide

The Evidence Guide specifies the evidence required to demonstrate achievement in the unit of competency as a whole. It must be read in conjunction with the unit descriptor, performance criteria, The range statement and the Assessment Guidelines for the Public Sector Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

In addition to integrated demonstration of the elements and their related performance criteria, look for evidence that confirms:

- the knowledge requirements of this unit
- the skill requirements of this unit
- application of employability skills as they relate to this unit
- effective operation within the regulatory framework for rail safety in a range of 3 or more contexts or occasions over time.

Context of and specific resources for assessment

Valid assessment of this unit requires:

- a workplace environment or one that closely resembles normal work practice and replicates the range of conditions likely to be encountered when working within the regulatory framework for rail safety, including coping with difficulties, irregularities and breakdowns in routine

Resources essential for assessment include:

- legislation, guidelines, codes of practice and standards relating to rail safety
- current rail industry terminology and meanings
- organisational procedures, guidelines and protocols for working within the regulatory framework for rail safety
- scenarios and/or case studies to illustrate the range of situations likely to be encountered when working within the regulatory framework for rail safety
- access to relevant systems

Method of assessment

Assessment methods suitable for valid and reliable assessment of this unit must use authenticated evidence from the workplace and/or training courses and may include a combination of two or more of:

- research projects
- simulation or role plays
- case studies and scenarios
- workplace projects
- portfolios
- authenticated evidence from the workplace and/or training courses.

The assessment environment should not disadvantage the candidate and where the person has a disability the principle of reasonable

adjustment should be applied during assessment.

Assessment methods should reflect but not exceed workplace demands, such as literacy, and the needs of particular groups, such as:

- people with disabilities
- people from culturally and linguistically diverse backgrounds
- Aboriginal and Torres Strait Islander people
- women
- young people
- older people
- people in rural and remote locations

Suggested units that may be co-assessed with this unit to increase the efficiency and realism of the assessment process include:

- PSPETHC501B Promote the values and ethos of public service
- PSPGOV504B Undertake research and analysis
- PSPGOV512A Use complex workplace communication strategies
- PSPLEGN501B Promote compliance with legislation in the public sector
- PSPRAIL502A Assess and administer accreditation and registration applications
- PSPRAIL504A Review and promote safety culture
- BSBAUD503B Lead a quality audit

Guidance information for assessment

For consistency of assessment:

- evidence must be gathered over time in a range of contexts to ensure the person can achieve the unit outcome and apply the competency in different situations or environments

Assessing employability skills:

- employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors
- the way these skills are applied varies between occupations and qualifications due to the different work functions and contexts
- employability skills embedded in this unit of competency should be assessed holistically with other relevant units that make up the skill set or qualification, and in the context of the job role

In practice, operating effectively within the regulatory framework for rail safety overlaps with other generalist or specialist work activities, such as undertaking research and analysis, acting ethically, using complex communication strategies, leading quality audits, and assessing and administering accreditation and registration applications. Co-assessment with units of competency

addressing these other activities could be considered.

Range Statement

The range statement provides information about the context in which the unit of competency is carried out. The variables cater for differences between States and Territories and the Commonwealth, and between organisations and workplaces. They allow for different work requirements, work practices and knowledge. The range statement also provides a focus for assessment. It relates to the unit as a whole. Text in *italics* in the Performance criteria is explained here.

Rail terminology may relate to infrastructure, such as:

- rail, including:
 - mass
 - rail head
 - web
 - rail foot
 - jointed
 - continuously welded: thermit or flashbutt
 - fastening (dog spike, pandrol clip and fishplate)
 - sleeper plate
 - sleeper (timber, concrete or steel)
 - ballast
 - rack
 - formation
 - points and crossings (turnouts, crossovers and diamonds)
 - curves (circular or transition) and cant
 - grades
 - track, including deterioration and maintenance, re-sleepering, surfacing and tamping
 - substation and feeder system
 - electrical overhead (catenary, contact, dropper wire, span wire, centre pole, span pole and building rosette)
 - train signalling (fixed or automatic)
 - tram signalling
 - tram squares
 - stations
 - depots
 - level crossings
 - sidings
- rolling stock:
 - locomotives
- trains:
 - passenger
 - freight: container, flat, open, van, hopper and tank

- special purpose, including:
 - special vehicles
 - multi-units
 - trailers
 - road/rail vehicles
 - tram cars
 - hi rail
 - self-propelled vehicles
 - diesel motive units (DMUs)
 - historic/heritage rolling stock
- rolling stock systems:
 - traction
 - braking
 - running gear (wheelsets, bogies, couplers and draft gear)
 - pantograph
 - trolley pole
- rail operations:
 - safeworking systems: train control, space interval or block working, running lines, authorisation of movements, fixed and onboard signals, drive on sight operations, staff (token) working, train order working, electronic authority, manual and automatic signalling, indicators
 - systems interfaces (outline, wheel/rail, train/signals)

Elements of railway systems may include:

- railway infrastructure
- railway technologies
- railway operations and management
- systems engineering
- systems interfaces
- access arrangements
- safety considerations, such as:
 - structural
 - design
 - performance
 - maintenance
 - interfaces
 - human factors
 - crashworthiness
- emergency requirements
- safety management systems for rail transport operators
- rolling stock, including:

Railway technologies

may include:

- locomotives
- rail cars
- trams
- monorails
- road/rail vehicles
- passenger rolling stock
- freight rolling stock
- special vehicles, multi-units and trailers
- electric motive units (EMUs) and DMUs
- historic/heritage rolling stock
- rolling stock systems
- rail vehicle crashworthiness
- vehicle maintenance
- wheel/rail interface theory and practice
- railway traction and braking
- traction power and distribution
- track and road bed
- signalling

Railway infrastructure
may include:

- track infrastructure, including:
 - track systems and geometry
 - track beds and components
 - points and crossings
 - curves and grades
 - structures for railways, such as cuttings, embankments, tunnels and bridges
 - level crossings
 - kinematic envelopes/rolling stock outlines
 - gauging
 - on-street tram tracks
- electrical infrastructure, including:
 - electrification systems, such as overhead live electrical and third rail
 - electric traction supply systems, including electromagnetic interference from traction supplies, e.g. electrolysis
- signalling infrastructure, including:
 - fixed
 - manual and automatic signalling
 - basic principles of signalling and train control
 - tram signals
 - communications for train control

	• automatic train protection systems • train monitoring • trackside warning systems • cab-based signalling or train protection systems
<i>Systems interfaces</i> may include:	• projects • tramway squares • electrical systems substations • systems engineering and systems integration • new works approvals, including identification of issues relating to management of change and material change • management of major railway projects • infrastructure maintenance systems and possessions planning • safeworking and operations, including rules and operating procedures for safeworking on trains
<i>Information</i> may include:	• uniform administration guidelines • business rules for audits • safety notices • national audit program information
<i>Other rail safety regulatory staff</i> may include:	• colleagues and supervisors • inter-jurisdictional regulatory staff
<i>Rail safety operating principles</i> include:	• identification and management of risk • protection of persons from injury • protection of property from damage • ensuring that emergencies and incidents are properly managed • ensuring that interfaces between different organisations are properly defined and managed • track access • train separation
<i>Applicable current national and international standards</i> may include:	• Rail Industry Safety and Standards Board (RISSB) (formerly Code Management Company [CMC]) codes and standards, e.g. Code of Practice for Health Assessment of Rail Safety Workers Volumes 1 and 2 • AS4292 series: Railway Safety Management • AS/NZS4360 Risk Management and HB436:2004 Risk Management Guidelines • AS/NZS/ISO 9000 series: Quality Management Systems • AS/NZS15288 Systems engineering - System life cycle processes • AS/NZS61508 Functional safety of electrical/electronic/programmable electronic safety-related systems

- AS/NZS/ISO 19011 Guidelines for Quality and/or Environmental Management System Auditing
 - AS/NZS3931 Risk Analysis of Technological Systems - Application Guide
 - AS1742.7 Manual of Uniform Traffic Control Devices Part 7: Railway Crossings
 - AS3806 Compliance Programs
 - relevant international standards, such as:
 - European Technical Specifications for Interoperability (TSIs)
 - European Norms (ENs)
 - British Railway Group Standards (RGSs)
- Implications** may include:
- a requirement that rail transport operators demonstrate that use of the appropriate standard or code will mitigate the risk
- Duty holders** include:
- rail transport operators - rail infrastructure managers and/or rolling stock operators
 - contractors
 - designers, manufacturers, suppliers, commissioners, erectors and installers
 - de-commissioners
 - managers of private sidings
 - rail safety workers
- Purpose of general duties** is:
- to provide a concise statement of a duty holder's overall safety responsibilities
- General duties** are:
- broad legal requirements that define the extent and nature of the responsibilities of a duty holder
 - described as general duties to distinguish them from other more specific and detailed legal requirements
 - sometimes referred to as 'general duties of care' or more simply as 'the duty of care'
- Rail industry organisations** may include:
- rail transport operators
 - industry associations
 - unions
 - maintainers
 - suppliers
 - contractors

Unit Sector(s)

Not applicable.

Competency field

Rail Safety Regulation.