



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **RIICBS312A Conduct bitumen tanker operations**

**Release: 1**

## RIICBS312A Conduct bitumen tanker operations

### Modification History

Not applicable.

### Unit Descriptor

This unit covers the conduct of bitumen tanker operations in the civil construction industry. It includes planning and preparing, setting up the tanker for operations, loading tanker, transferring materials, emptying tanker, carrying out operator maintenance, cleaning up. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

### Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Civil construction

### Licensing/Regulatory Information

Refer to Unit Descriptor.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

### Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply <b>compliance documentation</b> relevant to the work activity 1.2. Obtain and confirm <b>safety requirements</b> from the <b>site</b> safety plan and organisational policies and procedures, and apply to the allotted task 1.3. Select plant, <b>tools and equipment</b> to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults 1.4. Identify, confirm and apply <b>environmental protection requirements</b> from the project environmental management plan
2. Set up tanker for operation	2.1. Carry out pre-operational checks on <b>bitumen tanker</b> 2.2. Fill ancillary tanks and ensure adequate <b>materials</b> are available to perform tanker operations 2.3. Check tanks to prevent contamination 2.4. Obtain load details, including correct amount of any additives
3. Load tanker	3.1. Check previous load details for compatibility 3.2. Load tank with the prescribed amount of material 3.3. Add and mix additives to specifications 3.4. Check temperature of the material to ensure compliance with manufacturer's specifications 3.5. Measure, calculate and record material quantities and additives 3.6. Heat materials in accordance with manufacturer's/suppliers' instructions
4. Transfer materials	4.1. Set up transfer site according to Austroads Bitumen Sealing Safety Guide 4.2. Confirm transfer procedures with depot supervisor/sprayer driver 4.3. Transfer materials in accordance with organisational procedures 4.4. Record details of transferred materials

5. Empty tanker	5.1. Empty tank into storage or waste in accordance with environmental plan 5.2. Clean tank interior in accordance with organisation instructions or Austroads Bitumen Sealing Safety Guide
6. Carry out operator maintenance	6.1. Inspect for faults in accordance with manufacturer's specifications and organisational requirements 6.2. Carry out routine operational servicing and lubrication tasks 6.3. Maintain equipment condition reports and records
7. Clean up	7.1. Clear work area and dispose of or recycle <i>materials</i> in accordance with project environmental management plan 7.2. Clean, check, maintain and store plant, tools and equipment

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to conduct bitumen tanker operations:

- apply legislative, organisation and site requirements and procedures for conducting bitumen tanker operations
- organise work activities
- select and use relevant tools and equipment safely
- identify and report on hazards related to the worksite and work activity
- communicate effectively to receive and clarify work instructions

### Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to conduct bitumen tanker operations:

- bituminous materials
- site and equipment safety requirements
- bituminous materials and their characteristics
- processes for heating bitumen
- operational, maintenance and basic diagnostic procedures
- materials safety data sheets and materials handling methods
- treatment for bitumen burns
- quality requirements and environmental systems and standards
- handling and safe use of bitumen hoses
- civil construction terminology
- JSAs/safe work method statements

## Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p><b>Overview of assessment</b></p>	
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> <li>• knowledge of the requirements, procedures and instructions for conducting bitumen tanker operations</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the conduct of bitumen tanker operations</li> <li>• working with others to undertake and complete the conduct of bitumen tanker operations that meets all of the required outcomes</li> <li>• consistent timely completion of the conduct of bitumen tanker operations that safely, effectively and efficiently meets the required outcomes</li> <li>• transfer a minimum of three different materials, one of which must be a PMB, to be loaded from a refinery or depot</li> <li>• transfer a minimum of three different materials, one of which must be a PMB, mixed and heated</li> <li>• transfer a minimum of three different materials, one of which must be a PMB, transferred to at least one roadside and one storage depot</li> <li>• calculation and recording of all details for the activities in the three previous dot points</li> <li>• compliance with the instructions for transferring listed in Austroads Bitumen Sealing Safety guide</li> </ul>
<p><b>Context of and specific resources for assessment</b></p>	<ul style="list-style-type: none"> <li>• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated</li> </ul>

	<p>environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.</p> <ul style="list-style-type: none"> <li>• Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances.</li> <li>• The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job.</li> <li>• Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.</li> <li>• Aboriginal people and other people from a non English speaking background may have second language issues.</li> <li>• Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.</li> </ul>
<p><b>Method of assessment</b></p>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> <li>• written and/or oral assessment of the candidate's required knowledge</li> <li>• observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes</li> <li>• consistent achievement of required outcomes</li> </ul> </li> <li>• first hand testimonial evidence of the candidate's:</li> </ul>

	<ul style="list-style-type: none"><li>• working with others to undertake and conduct bitumen tanker operations</li></ul>
<b>Guidance information for assessment</b>	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.



## Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><b>Relevant compliance documentation</b> may include:</p>	<ul style="list-style-type: none"> <li>• legislative, organisational and site requirements and procedures</li> <li>• manufacturer's guidelines and specifications</li> <li>• Australian standards</li> <li>• Employment and workplace relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> <li>• graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, maps, materials safety data sheet (MSDS) and diagrams or sketches</li> <li>• safe work procedures or equivalent related to the bitumen tanker operations</li> <li>• regulatory/legislative requirements pertaining to the bitumen tanker operations</li> <li>• instructions issued by authorised organisational or external personnel</li> <li>• relevant Australian standards and Austroads</li> <li>• AAPA advisory notes and code of practice</li> <li>• quality requirements including, but not be limited to: dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction</li> </ul>
<p><b>Safety requirements</b> may include:</p>	<ul style="list-style-type: none"> <li>• OHS requirements in accordance with state or territory legislation and regulations, organisational safety policies and procedures, and project safety plan, including protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, bitumen hoses, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances</li> <li>• safe parking practices including ensuring access</li> </ul>

	<p>ways are clear, equipment or machinery is away from overhangs and refuelling sites, safe distance from excavations, secured from unauthorised movement and in accordance with legal requirements and the Austroads Bitumen Sealing Safety Guide instructions</p> <ul style="list-style-type: none"> <li>• safe operating procedures including recognising and preventing hazards associated with traffic, uneven/unstable terrain, poles, underground and overhead services, bridges, buildings, obstructions, structures, facilities, dangerous materials, other machines, personnel, traffic control, working in proximity to others, worksite visitors and the public</li> <li>• recognising hazards and risks including hazards associated with hot bitumen products, uneven/unstable terrain, trees, fires, overhead and underground services, bridges, building, excavations, traffic, embankments, cuttings, structures and hazardous materials</li> <li>• emergency procedures related to equipment operation including emergency shutdown and stopping, extinguishing equipment fires, bitumen burns and may include organisational First Aid requirements, evacuation and refinery/depot safety procedures</li> </ul>
<b>Site</b> may include:	<ul style="list-style-type: none"> <li>• roadways</li> <li>• car parks</li> <li>• container yards</li> <li>• hard stands</li> <li>• manufacturer's depots and refineries</li> </ul>
<b>Tools and equipment</b> may include:	<ul style="list-style-type: none"> <li>• bitumen tankers</li> <li>• bitumen transfer hoses</li> <li>• rags, basic tool kits,</li> <li>• volume correction tables</li> <li>• earthing equipment</li> <li>• end shields</li> <li>• LPG gas bottles</li> <li>• lighters</li> </ul>
<b>Environmental protection requirements</b> may include:	<ul style="list-style-type: none"> <li>• organisational/project environmental management plan</li> <li>• waste management</li> <li>• water quality protection</li> <li>• noise</li> </ul>

	<ul style="list-style-type: none"> <li>• vibration</li> <li>• dust and clean-up management</li> </ul>
<b>Bitumen tanker</b> refers to:	<ul style="list-style-type: none"> <li>• vehicles which are purpose built, self contained units and have the capability to load, unload, heat, transfer and circulate materials using their own pumping and heating systems</li> <li>• tankers which may be truck mounted, semi trailers, towed or any other purpose built mechanically operated tanker</li> </ul>
<b>Materials</b> may include:	<ul style="list-style-type: none"> <li>• bitumen</li> <li>• cutback bitumen and polymer modified binders (PMB)</li> <li>• kerosene and distillate</li> <li>• multi-grade bitumen</li> <li>• bitumen emulsions</li> <li>• adhesion agents</li> </ul>

## Unit Sector(s)

Bituminous Surfacing

## Competency field

Refer to Unit Sector(s).

## Co-requisite units

Not applicable.