



Australian Government

RIICBS307E Conduct bitumen sprayer operations

Release: 1

RIICBS307E Conduct bitumen sprayer operations

Modification History

This unit replaces RIICBS307D Conduct bitumen sprayer operations. Minor endorseeable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Application

This unit describes the skills and knowledge required to conduct bitumen sprayer operations in civil construction.

It applies to those working in operational roles. The individual is generally a skilled operator and may provide theoretical advice and support a team.

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.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for bitumen sprayer operations	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply bitumen sprayer operations documentation and confirm the work activity is compliant 1.3 Identify environmental issues and potential hazards, and assess and address risks within scope of own role and according to workplace procedures 1.4 Select and wear personal protective equipment required for work activities 1.5 Confirm and comply with environmental protection, safety and traffic management signage requirements 1.6 Select plant, tools and equipment required for tasks and check for faults within scope of own role 1.7 Obtain and interpret emergency procedures and identify steps required in case of fire, accident and other

ELEMENT	PERFORMANCE CRITERIA
	emergencies
2. Set up and load sprayer	2.1 Check ancillary tanks are full and determine required materials to perform spray operations 2.2 Check tank for contamination and apply prevention methods 2.3 Calculate spraying speed and pump rpm required for job 2.4 Set required amount of cutter and fit required number and size of jets to spray bar 2.5 Check previous load details for compatibility 2.6 Load tank with the prescribed type and quantity of material and add additives and mix where required 2.7 Check heat and maintain temperature of the material 2.8 Measure, calculate and record material quantities and additives
3. Operate bitumen sprayer	3.1 Carry out start-up, park, shutdown and secure equipment procedures 3.2 Select and modify bitumen spraying techniques as required by work conditions 3.3 Set control valves for operation according to job requirements 3.4 Drive and operate equipment that minimises hand spraying requirements 3.5 Conduct, control and monitor spraying operations without damaging property or vehicles
4. Operate hand lance	4.1 Inspect and confirm hand lance is fit for purpose 4.2 Select hand lancing techniques required by work conditions 4.3 Conduct, control and adjust hand spraying operations as required by task 4.4 Carry out hand spraying operations adjacent to traffic
5. Carry out operator maintenance and clean up	5.1 Unload and empty tank into storage and waste as required according to workplace procedures and environmental requirements 5.2 Clean tank interior, spray bar, tools and equipment according to workplace procedures 5.3 Clear work area and dispose of and recycle materials as required according to workplace procedures and environmental requirements 5.4 Prepare machine for maintenance 5.5 Conduct inspection and fault finding

ELEMENT	PERFORMANCE CRITERIA
	5.6 Carry out scheduled maintenance tasks of plant, tools and equipment 5.7 Process written maintenance records 5.8 Carry out housekeeping to workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Numeracy	Checks and sets bitumen spraying equipment to required levels to ensure work meets required outcomes
Reading	Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Self-management	Monitors and minimises own exposure to worksite hazards during activities
Oral communication	Uses a range of communication techniques and systems to communicate with others

Unit Mapping Information

Supersedes and is equivalent to RIICBS307D Conduct bitumen sprayer operations.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICBS307E Conduct bitumen sprayer operations

Modification History

This unit replaces RIICBS307D Conduct bitumen sprayer operations. Minor endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit; including evidence of the ability to:

- conduct bituminous sprayer operations on at least two occasions.

During the above, the candidate must:

- load, mix, heat and spray at least three different materials, with spray runs to be at least 60% of tank capacity, to be used for:
 - two straight runs
 - two tapers or turning slots
 - two restricted areas to specified tolerances
- hand lace a minimum of two areas, each with a different material and to the specified tolerance
- complete all activity calculations and spray sheets
- carry out operations according to traffic management requirements
- work with others to undertake and complete bitumen sprayer operations that meets required outcomes, including:
 - organising work activities to meet all task requirements
 - using a range of communication techniques and systems
 - using signage to advise others of work activity and exclusion zone
- clean, check, perform maintenance on and store equipment.
- complete housekeeping activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- communication techniques to receive and clarify work instructions
- on site processes and responsibilities relating to site isolation and traffic control
- processes for operating adjacent to traffic
- processes for calculating material requirements, application rates and travel speed
- safety data sheet (SDS) compliance processes

- key components of job safety analyses (JSAs)/job safety environmental analyses (JSEAs)/safe work method statements (SWMSs)
- key legislation for conducting bitumen sprayer operations
- key policies, procedures and established requirements for conducting bitumen sprayer operations, including those for:
 - work health and safety
 - equipment safety
 - establishing exclusion zones
 - environmental protection, including waste disposal and recycling
 - heating bitumen
 - asphalt paving operations
 - edge and joint treatments
 - housekeeping
 - safe operating techniques in all terrain
 - operating and maintaining equipment
- key factors affecting work activities described in performance evidence above, including:
 - asphalt strength and performance characteristics
 - bituminous materials and their characteristics
 - bitumen spraying techniques
 - hand spraying techniques
 - different equipment types, characteristics, technical capabilities and limitations.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - bitumen spraying equipment
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.
- Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sectors workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF** level	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this unit of competency is being assessed outside of the resources and infrastructure sectors assessor and/or industry	

Industry sector	AQF** level	Required assessor or industry subject matter expert experience
	subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

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