



Australian Government

RIICRC321E Use automated paving guidance systems

Release: 1

RIICRC321E Use automated paving guidance systems

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to use automated paving guidance systems (APGS) in civil construction, including setting up, calibrating, operating and adjusting APGS.

It applies to those working in operational roles. They generally work under minimal supervision to undertake a broad range of tasks in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying 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. Plan and prepare to use automated paving guidance systems	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Access, interpret and apply documentation required to use automated paving guidance systems (APGS) and confirm work activity is compliant 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select and wear personal protective equipment according to site requirements 1.5 Select plant, tools and equipment required to carry out tasks and check for faults

ELEMENT	PERFORMANCE CRITERIA
2. Set up APGS	2.1 Set up prisms according to manufacturer specifications and job and site requirements 2.2 Locate survey equipment according to manufacturer specifications and job and site requirements 2.3 Identify and establish control points and theodolite positions according to job and site requirements 2.4 Verify survey model against job and site requirements 2.5 Calibrate paver to tolerances according to manufacturer specifications and site requirements
3. Operate APGS	3.1 Set APGS controls to automatic control settings 3.2 Check signal inputs and automated control according to manufacturer specifications and site requirements 3.3 Check conformity of newly paved concrete against worksite model 3.4 Conduct paver and APGS adjustments according to job and site requirements 3.5 Reposition total station according to job and site requirements 3.6 Monitor movements and hazards and identify and communicate changes to work environment according to site requirements
4. Conduct shutdown operations	4.1 Check and confirm supervisor instructions 4.2 Shutdown APGS according to manufacturer specifications and site requirements 4.3 Lower sensors on paver according to manufacturer specifications and site requirements 4.4 Clean, check, maintain and store total stations according to manufacturer specifications and site 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	Calculates basic measurements including masses and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICRC321D Use automated paving guidance systems.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for RIICRC321E Use automated paving guidance systems

Modification History

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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:

- use automated paving guidance systems (APGS) on at least two occasions, including:
 - setting up and calibrating APGS operations and paving at least 200 meters according to job requirements
 - adjusting pavers at least six times, including at least:
 - two times horizontally, including one positive and one negative
 - two times vertically, including one positive and one and negative
 - two times combining the above adjustments
 - conducting shutdown operations
 - cleaning, checking, maintaining and storing total stations.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures and confirm work activity is compliant
- implement the requirements, procedures and techniques to use APGS, including:
 - identifying and applying required specifications to all work activities
 - identifying, addressing and reporting potential hazards and risks
 - selecting all plant, tools and equipment required to carry out tasks and checking for faults
 - identifying, addressing and reporting environmental issues
- work with others to use APGS in a way that meets required outcomes, including:
 - preparing for and organising work activities to meet task requirements
 - communicating with others to receive and clarify work instructions
 - using communication techniques and aids to advise others of work activity and exclusion zones

- monitoring movements and hazards and identifying and communicating changes to work environment.

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:

- policies, procedures and documentation required to use APGS, including those relating to:
 - site requirements
 - manufacturer specifications for required plant and equipment
 - relevant job specifications
 - hazard and risk management
 - environmental protection
 - work activity set up procedures
 - communication techniques and aids
 - work health and safety
- types, characteristics, technical capabilities and limitations of APGS and equipment required to use APGS, including:
 - global positioning system (GPS)
 - automated laser detection systems
 - positioning systems
 - survey equipment, including:
 - theodolite
 - automated laser devices
 - stringlines and markers
- principles and techniques for effective use of APGS, including:
 - techniques for set up, calibration, operation and shutdown
 - vertical, horizon and combined adjustment techniques.

Assessment Conditions

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

- include access to:
 - automated paving guidance system
 - personal protective equipment
 - equipment required to use automated paving guidance systems
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes 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 sector's 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 regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework 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 the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence 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 have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must 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 indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years

Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry 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.
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*Guidance on simulated environments has been stipulated in the 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.

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