



Australian Government

RIICAM502 Make decisions using civil infrastructure asset data

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with the RII Resources and Infrastructure Industry Training Package Version 8.0. Newly created unit.

Application

This unit describes the skills and knowledge required to make decisions using civil infrastructure asset data. This includes an understanding of organisational decision making requirements.

It applies to those working in management or technical specialist roles. They generally apply a broad range of technical and managerial skills and are responsible for the delivery of outputs that meet workplace requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Civil Infrastructure Asset Management

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. Identify organisational requirements for civil infrastructure asset data	1.1 Obtain, interpret, clarify and confirm work requirements according to legislation, standards, regulations, codes, guidelines and manuals 1.2 Determine purpose of work activity and required outcomes 1.3 Identify and select civil infrastructure asset data according to task requirements 1.4 Evaluate civil infrastructure asset data set and identify organisational decision making opportunities 1.5 Confirm nature and scope of report requirements

2. Interpret civil infrastructure asset data sources	2.1 Access civil infrastructure asset data according to organisational policies and procedures and legislative requirements 2.2 Analyse civil infrastructure dataset and identify trends according to work requirements 2.3 Determine and document insights according to identified organisational decision making opportunities
3. Prepare recommendations	3.1 Prepare recommendations based on analysis activities according to task requirements 3.2 Seek input and integrate feedback from required stakeholders according to organisational policies and procedures 3.3 Finalise and distribute recommendations to required personnel according to organisational and legislative 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 resourcing requirements and performs mathematical calculations
Oral communication	Uses listening and questioning techniques to confirm requirements and articulate complex concepts using relevant industry for intended audience
Planning and organising	Uses a formal, logical planning processes together with an increasingly intuitive understanding of context
Technology	Identifies principles, concepts, language and articulates associated with the digital world
Writing	Develops documentation conveying explicit information, requirements and recommendations for a specific audience, using clear and detailed language

Unit Mapping Information

New unit.

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 RIICAM502 Make decisions using civil infrastructure asset data

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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:

- analyse and interpret at least two separate civil infrastructure asset datasets to identify trends and opportunities for organisational decision making.

In the course above, the candidate must:

- locate and apply required documentation, policies and procedures and confirm that the work activity is compliant
- apply diagnostic, problem solving and decision making techniques
- communicate clearly and concisely with others to receive and clarify work instructions.

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:

- key requirements of legislation, codes, regulations, standards and security arrangements relating to making decisions using civil infrastructure asset data
- organisational policies and procedures applicable to making decisions using civil infrastructure asset data
- operational decision-making requirements relating to use of civil infrastructure asset data
- types of data-driven decision making methods, including:
 - optimisation tools
 - simulation tools
 - what-if analysis scenarios
- techniques for presenting data insights, including:
 - charts

- dashboards
- heat maps
- scatterplots
- statistical tools
- principles and features of:
 - data analysis methodologies
 - data cleansing methodologies
 - data extraction methodologies
 - data normalising methodologies
- key tools and dashboards for data analysis
- key data collection tools, and procedures for their use, including:
 - asset inventory
 - asset management systems
 - asset register
 - geographic information systems
 - spreadsheets.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required for analysing and interpreting civil infrastructure datasets
- 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 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.	

*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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