



Australian Government

CPPSIS5035A Obtain and validate spatial data

Release 1

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Modification History

Unit revised and not equivalent to CPPSIS5005A Obtain and validate existing spatial data

New unit title

Element structure, performance criteria, and critical aspects reviewed to reflect workplace requirements

Skills and knowledge requirements and the range statement updated

Unit Descriptor

This unit of competency specifies the outcomes required to obtain and validate spatial datasets. It requires the ability to plan and execute the data validation process, often in a supervisory capacity, incorporating technical problems and management requirements. Functions would be carried out within organisational guidelines.

Application of the Unit

This unit of competency supports the application of organisational, sound communication, negotiation and problem-solving skills; the ability to demonstrate initiative and enterprise; and an understanding of technology. The skills and knowledge acquired upon completion of this unit would support the needs of employees in surveying, cartography, town planning, mapping or geographic information systems.

Licensing/Regulatory Information

No licensing, legislative and regulatory requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

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 required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | |
|---|-------------------------|---|
| 1 | Obtain data. | <p>1.1 <i>Client instructions</i> are analysed to <i>determine specific needs</i> and <i>spatial data requirements</i>.</p> <p>1.2 Data requirements are based on <i>specifications</i> and confirmed with <i>relevant personnel</i>.</p> <p>1.3 Protocols for communication between <i>spatial data providers</i> and the organisation are followed.</p> <p>1.4 Work is allocated to relevant personnel.</p> <p>1.5 <i>Advice</i> is sought from relevant personnel to assess the viability of the providers' service <i>agreement</i>.</p> <p>1.6 <i>Collection options</i> are determined according to organisational guidelines.</p> <p>1.7 Data is received and processed according to <i>organisational guidelines</i>.</p> |
| 2 | Validate data supplied. | <p>2.1 Data is assessed for <i>validity</i> and <i>integrity</i> according to specifications.</p> <p>2.2 Omissions and gaps in the spatial data are communicated and followed through to resolution with relevant personnel.</p> <p>2.3 <i>OHS</i> issues are considered at all times.</p> |

- 3 Complete documentation.
 - 3.1 **Metadata** is recorded according to industry standards.
 - 3.2 **Required documentation** is **stored** according to organisational requirements.

Required Skills and Knowledge

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

Required skills

- communication skills to:
 - consult effectively with clients and colleagues
 - impart knowledge and ideas through oral, written and visual means
- computer skills to complete spatial data documentation
- initiative and enterprise skills to:
 - delegate duties
 - undertake day-to-day human resource management and business negotiation
- literacy skills to:
 - assess and use workplace information
 - read and interpret datums and projections
 - read and write technical reports
 - research and evaluate
- numeracy skills to:
 - analyse errors
 - conduct image analysis
 - perform mental calculations
 - interpret and analyse statistics
 - record with accuracy and precision
 - undertake computations
- organisational skills to:
 - coordinate technical and human resource inputs to research activities
 - prioritise activities to meet contractual requirements
 - quality assurance
- spatial skills to:
 - display proficiency in the operation of spatial data capture equipment
 - exercise precision and accuracy in relation to spatial and aspatial data acquisition using electronic equipment
 - archive and retrieve spatial data
 - manage and manipulate spatial data
 - manage files

Required knowledge

- classification systems, processes and products linked to specification
- industry standards relating to obtaining and validating spatial data
- information management procedures
- legislation as it applies to the spatial industry sector
- methods of assessing spatial datasets and dataset sources
- need for precision and accuracy in relation to spatial data acquisition
- organisational policies and guidelines, such as pricing and working within budgetary constraints
- quality assurance principles
- spatial data capture methodologies
- spatial data management practices
- spatial data formats and structure
- spatial information principles and their application
- spatial referencing systems
- spatial technologies to locate and validate spatial data

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Overview of assessment	This unit of competency could be assessed on its own or in combination with other units relevant to the job function, for example CPPSIS5031A Plan spatial data collection and validation, CPPSIS5032A Capture new spatial data, CPPSIS5036A Integrate spatial datasets, CPPSIS5037A Maintain complex spatial data systems, and CPPSIS5038A Develop a complex spatial and aspatial database.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of: • sourcing data according to agreed processes and protocols and that it satisfies requirements • applying cost considerations • assessing and acting upon contingencies • knowledge of spatial data access and validation processes.
Specific resources for assessment	Resource implications for assessment include access to: • assessment instruments, including personal planner and assessment record book • assignment instructions, work plans and schedules, policy documents and duty statements • registered training provider of assessment services • relevant guidelines, regulations and codes of practice • suitable venue and equipment. Access must be provided to appropriate learning and assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.
Context of assessment	Holistic: based on the performance criteria, evidence guide, range statement, and required skills and knowledge.
Method of assessment	Demonstrated over a period of time and observed by the assessor (or assessment team working together to conduct the assessment). Demonstrated competency in a range of situations, that may include customer/workplace interruptions and involvement in related activities normally experienced in the workplace. Obtained by observing activities in the field and reviewing

induction information. If this is not practicable, observation in realistic simulated environments may be substituted.

Guidance information for assessment

Assessment requires that the clients' objectives and industry expectations are met. If the clients' objectives are narrowly defined or not representative of industry needs, it may be necessary to refer to portfolio case studies of a variety of surveying and spatial information services requirements to assess competency.

Oral questioning or written assessment and hypothetical situations (scenarios) may be used to assess underpinning knowledge (in assessment situations where the candidate is offered a preference between oral questioning or written assessment, questions are to be identical).

Supplementary evidence may be obtained from relevant authenticated correspondence from existing supervisors, team leaders or specialist training staff.

All practical demonstration must adhere to the safety and environmental regulations relevant to each State or Territory.

Where assessment is for the purpose of recognition (recognition of current competencies [RCC] or recognition of prior learning [RPL]), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time.

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.

Assessment processes will be appropriate to the language and literacy levels of the candidate and any cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

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 in the performance criteria is detailed below. Add any 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.

Client instructions refer to description of outputs and may be contained in:

- contracts
- memos
- tender briefs
- verbal instructions
- written instructions.

Determine specific need
may be conducted via:

- response to a direction regarding scope and needs
- independent assessment.

Spatial data requirements
may include:

- administration (e.g. postcodes, suburbs, and federal and state electoral counties)
- analysis of environmental, land and geographic information
- asset management
- cartographic services
- civil engineering
- digital imagery
- electricity
- emergency services management
- environmental datasets
- geographic information systems
- integrated services – environmental, land and geographic related datasets
- land ownership tenure system
- local government
- location-based services
- global positioning
- mapping facilities
- site analysis
- survey marks
- sewerage
- telecommunications
- town planning
- utility services such as water.

Specifications refer to:

- detailed technical description of the spatial data and its qualifiers.

Relevant personnel may include:

- colleagues
- registered surveyors
- company personnel
- staff or employee representatives
- supervisors or line managers
- suppliers
- users.

Spatial data providers may include:

- associations
- clearing houses
- educational institutions
- government
- internal sources
- non-government agencies

- online services
- software providers
- specialist companies.

- Advice** may include information from:
- financial or legal specialists
 - internal and external personnel
 - management
 - registered surveyors
 - town planners.
- Agreement** may include:
- contract
 - copyright
 - licence
 - royalty contract
 - memorandum of understanding.
- Collection options** may include:
- data logging
 - digitising theodolite
 - global position system
 - photogrammetry
 - remote sensing
 - scanning
 - sonar
 - survey
 - total station.
- Organisational guidelines** may include:
- code of ethics
 - company policy
 - legislation relevant to the work or service function
 - manuals
 - OHS policies and procedures
 - personnel practices and guidelines outlining work roles and responsibilities.
- Validity** means reflecting the true state of a test result, including tests for systematic distortions such as:
- confounding bias
 - information/data bias
 - observational bias
 - recall bias
 - selection bias.
- Integrity** may include:
- authenticity
 - relevance to the project.
- OHS** may include:
- Australian standards
 - development of site safety plan
 - identification of potential hazards
 - inspection of work sites
 - training staff in OHS requirements
 - use of equipment and signage.
- Metadata** may include:
- summarised information about a spatial dataset that describes the characteristics of the dataset, including:

- availability
- conditions of use
- coordinate system datum
- currency
- date of acquisition
- quality
- source
- spatial data acquisition methodologies
- version control.

Required documentation
may include:

- electronic or paper-based correspondence with client
- field records
- final report
- records of conversation
- survey plots
- organisational work activity sheets.

Stored may include:

- activity and sequence of activity determined to be appropriate in order to meet project objectives.

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.