



Australian Government

CPPSIS6041A Compile mine survey plan

Release 1

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Modification History

Version	Comment
1	This version first released with CPP07 Property Services Training Package Version 12.

Unit Descriptor

This unit of competency specifies the outcomes required to compile mine survey plans to meet legislative requirements.

Application of the Unit

This unit of competency supports the application of the planning, organisational, communication, sound problem-solving and accuracy skills; error analysis; designing and interpreting technical documentation; and a high-level understanding of technology. The skills and knowledge acquired on completion of this unit would support the needs of a mine surveyor.

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 | Determine project deliverables. | <p>1.1 <i>Organisational priorities</i> are determined to identify project activity.</p> <p>1.2 Design information is accessed and interpreted to identify the <i>spatial data requirements</i> and the components to be measured and monitored.</p> <p>1.3 <i>Project specifications</i> are presented to <i>relevant personnel</i>.</p> <p>1.4 Agreed communication processes between project members, <i>client</i> and other <i>stakeholders</i> are implemented and maintained.</p> |
| 2 | Organise processes to compile mine survey plans. | <p>2.1 <i>Surveying requirements</i> essential for compiling mine survey plans are checked for currency and validity.</p> <p>2.2 Survey database, file structures and conventions, and metadata are created.</p> <p>2.3 <i>Project management mechanisms</i> are implemented to measure, record and report progress of planned activities in relation to the agreed schedule and plans.</p> <p>2.4 <i>Quality assurance processes</i> are implemented based on the project plan.</p> |
| 3 | Standardise plot requirements | <p>3.1 Requirements for plan lodgement are identified.</p> <p>3.2 OHS and legislative requirements are incorporated into project <i>risk management</i>.</p> |

- 3.3 Requirements of legislative framework are identified and incorporated into project risk management.
 - 3.4 Standard **mine plan drawing requirements** are researched.
 - 3.5 **Mine plans are** developed according to **legislation, organisation and project plotting specifications**.
 - 3.6 **Contingencies** and constraints are managed to ensure project meets specifications.
- 4 Produce mine plans.
 - 4.1 Measured spatial data is reduced to project reference system.
 - 4.2 Mine drawings are created to meet legislative and statutory project plotting specifications.
 - 4.3 **Measurements** are validated and recorded according to project specifications.
- 5 Finalise the project.
 - 5.1 Relevant personnel are informed of the results according to organisational guidelines.
 - 5.2 **Required documentation** is completed according to organisational guidelines.
 - 5.3 Spatial data is archived according to project specifications.

Required Skills and Knowledge

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

Required skills

- analytical skills to analyse the feasibility of survey plans
- communication skills to:
 - consult effectively with clients and colleagues
 - impart knowledge and ideas through oral, written and visual means
- initiative and enterprise skills to:
 - interpret project requirements
 - translate requirements into design
- literacy skills to:
 - assess, develop and use workplace information
 - locate and interpret legislation and other written documentation
 - prepare and manage documentation and information flow
 - read and write key performance reports, including technical reports
- numeracy skills to:
 - analyse errors
 - estimate costs
 - perform mental calculations
 - record with accuracy and precision
- planning and organising skills to:
 - manage information
 - plan and coordinate technical and human resource inputs to research activities
 - plan and prioritise activities to meet contractual requirements
- project management skills to compile survey plans
- spatial skills to:
 - archive and retrieve spatial data
 - manage and manipulate spatial data
 - manage files
 - solve complex problems relating to height, depth, breadth, dimension, direction and position in operational activity and virtual representation
- technology skills to:
 - use computers to develop business documentation
 - use instruments

Required knowledge

- abilities of work teams
- mine grid coordinate systems
- surface and underground baselines relevant to a mine grid coordinate system
- requirements for check surveys
- calibration, maintenance and servicing scheduling of specialised surveying equipment
- concept of mining in terms of the objectives, types, classifications and purpose
- data management processes
- data reduction and manipulation techniques
- guidelines of projects being undertaken, and limitations relating to equipment, measuring and analysis
- industry standards for mining survey plans
- mining survey legislative, statutory and industry requirements and standards
- limitations of the guidelines relating to equipment, measuring and analysis
- project management principles
- project review procedures
- requirements relevant to compiling mine survey plans:
 - accuracy and precision requirements
 - data formats
- spatial reference systems

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 CPPSIS6021A Conduct open mine pit surveying and CPPSIS6033A Conduct underground mine surveying.
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: • conducting an accurate collection and validation process based on thorough assessment of all relevant considerations • matching objectives with resources to ensure project proceeds in an organised and timely manner • recording and reporting non-conformity aspects • displaying knowledge of underground mining operations • taking responsibility for team outputs in work and learning.
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, which 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 SIS 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.

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.

Organisational priorities may include:

- client focus
- external influence and focus
- financial priorities
- internal influence and focus
- operational plan
- strategic plan.

Spatial data requirements may include:

- reduction
- manipulation.

Project specifications may include:

- detailed technical descriptions of survey data and its requirements
- preparation of cross-sections and plans, with all information included.

Relevant personnel may include:

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

Client may include:

- customers with routine or special requests

- external to organisation
- internal to organisation
- regular and new customers, including:
 - business enterprises
 - government agencies
 - members of the public
 - suppliers.

- Stakeholders** may include:
- human resource personnel: internal or external
 - procurement agency: internal or external management.
- Surveying requirements** must include:
- mine grid coordinate systems
 - personnel practices and guidelines outlining teamwork, work roles and responsibilities
 - requirements for data processing
 - surface and underground baselines.
- Project management mechanisms** may include:
- communication with stakeholders
 - dispute resolution guidelines
 - monitoring and adjusting key milestones.
- Quality assurance processes** may include:
- internal and external
 - monitoring activity against set targets
 - product or service measurement against set criteria
 - standard verification.
- Risk management** may include:
- adhering to budget
 - anticipating external influences
 - contingency planning
 - guidelines for the selection of contractors
 - effective communication and consultation
 - effective project management
 - internal and external audit processes
 - milestone review and evaluation
 - realistic timelines
 - targeted activity.
- Mine plan drawing requirements** may include:
- map legends
 - plot symbols.
- Mine plans** may include:
- accident plans
 - emergency plans
 - open cut mine plans
 - surface infrastructure plans
 - underground level plans
 - ventilation plans.
- Legislation, organisation and project plotting specifications** may include:
- endorsements
 - grid convergence
 - legends
 - long and cross-section plot requirements
 - OHS
 - quality assurance requirements
 - sheet surround.

Contingencies may include:

- equipment failure
- injury to personnel
- personnel turnover.

Measurements may include:

- use of:
 - global navigation satellite system (GNSS)
 - gyro-theodolite
 - laser technologies
 - level
 - remote sensing
 - tape
 - total station.

Required documentation may include:

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

Unit Sector(s)

Surveying and spatial information services

Custom Content Section

Not applicable.