



**AIPM
PROFESSIONAL
COMPETENCY STANDARDS
FOR
PROJECT MANAGEMENT**

**PART C – CERTIFIED PRACTISING PROJECT
MANAGER (CPPM)**

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Proposals for Amendment

Proposals for amendments or additions to this document should be sent to:

The Chair of the Professional Development Council
Australian Institute of Project Management
Level 9, 139 Macquarie St
SYDNEY NSW 2000

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Project Manager

Introduction

These Competency Standards provide the basis for the development and assessment of moderately experienced mid-level project managers. Applicants and assessors are to be familiar with the introduction to these Standards contained in Part A..

The Standards have been developed as generic standards with the objective of applicability across a wide range of industries and enterprises. They may be used by industries/enterprises as they stand or they may be used as a basis from which each industry or enterprise may contextualise the project management standards.

The Standards are described in terms of the units of project management. Within each unit, the Standards detail the elements of competency and associated performance criteria, range indicators, knowledge and skills, and evidence guides.

The Units are:

- Unit 1 – Plan, Manage and Review Scope
- Unit 2 - Plan, Manage and Review Time
- Unit 3 - Plan, Manage and Review Cost
- Unit 4 - Plan, Manage and Review Quality
- Unit 5 - Plan, Manage and Review Project Human Resources
- Unit 6 - Plan, Manage and Review Communications
- Unit 7 - Plan, Manage and Review Project Risk
- Unit 8 - Plan, Manage and Review Procurement
- Unit 9 - Plan, Manage and Review Integration

While all of these units address project management competencies only units 5 and 7 state the word 'project' in their title. This is to help clarify a common confusion between typical organisational practices in these domains and to reinforce that these competency elements are conducted within the specific confines of the project.

Work Done at Project Manager Level

At Project Manager level an individual will manage project team/s and have responsibility for overall project outcomes and utilise a range of project management tools and methodologies on a daily basis with a high degree of competence. The Project Manager level employs the self-directed application of project management knowledge and skills, with substantial depth in project management tools and methodologies where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.

At the Project Manager level individuals participate in the development of strategic initiatives, as well as having personal responsibility and autonomy in performing complex technical project management operations. They may participate in project manager teams concerned with planning and evaluation functions for their project which may fall under wider programs or portfolios.

Work done at the Project Manager level is under the direction of a Project Director, Executive Project Director or senior manager.

The standards at the Project Manager level have been mapped to the Australian Qualification Framework Diploma level.

Range Indicators

The Standards contain Range Indicators that outline the circumstances within which the Performance Criteria apply.

The Range Indicators:

- frame the boundaries within which the competency unit and its associated criteria apply,
- allow for variations in context between industries/enterprises and provide the basis for contextualisation for the specific industry/enterprise

Range Indicators may include additional information such as:

- relevant methodology and procedures and/or current industry/enterprise practices for project management;
- identification of users, supporters and stakeholders for the project and how they are involved;
- identification of what facilities and resources are available and their characteristics;
- identification of what expertise/advice is available from within and, external to, the organisation;
- identification of the organisational environments, both internal and external, and how they influence the project; and
- information and communications systems utilised within the organisation.

Higher project authorities may be:

- the client/customer
- the project manager (in large projects where the individual is section head or sub-project leader)
- other personnel within the project/organisation designated specific authority over certain aspects of the project
- the program manager
- higher management within the organisation

Stakeholders may be from: within the project, other projects affected, the client/customer, suppliers/contractors and/or the parent organisation.

The client is the authority, or authorities, for whom the project is being undertaken. The client may be internal or external to the organisation. The client may be the customer, the owner, the sponsoring authority in the case of projects where a contract does not exist, or it may be an authority specifically designated as the client.

Advice and **assistance** may be provided by other project managers, the program manager, section heads and/or specialists within the organisation. Liaison with the client organisation and external authorities would normally be within agreed authorisation and reporting requirements.

The **project life cycle** starts at the time that a project is conceived and completes when the desired outcomes have been achieved

Project Manager

Unit 1 – Plan, Manage and Review Scope

Definition: *The scope of a project comprises a combination of the business planning process and its outcomes, the end products of the project and the work required to deliver the project deliverables required using systems thinking to ensure the definition and delivery of the required project outcomes. Scope management involves the initial justification of the project through the strategic planning process, the development of the business case, management of the initial project start-up activity followed up by the ongoing definition of the deliverables within project objectives and constraints. Project scope forms the foundation of the project plan, the basis from which all other project specific plans are developed and is the focus for an overall systems approach to project management.*

Element		Performance Criteria	
1.1	Plan Scope Management	1.1.1	Confirm project authorisation with higher authority and within current governance parameters
		1.1.2	Identify project stakeholders and their interests, with guidance from higher project authority
		1.1.3	Define, communicate and confirm agreement to project context and objectives with all key stakeholders and a higher project authority
		1.1.4	Identify external dependencies to ensure agreed and documented boundaries between the project and the customer / client
		1.1.5	Develop the project charter in consultation with higher project authorities
		1.1.6	Critically examine lessons learned from previous projects to improve the scope definition of this project
		1.1.7	Establish project assumptions, constraints and dependencies in consultation with key stakeholders
		1.1.8	Develop a work breakdown structure to reflect the project scope
		1.1.9	Develop and agree the scope management plan in consultation with relevant stakeholders and higher project authority

Element		Performance Criteria	
1.2	Manage Project Scope	1.2.1	Implement agreed scope management procedures and processes in accordance with the scope management plan
		1.2.2	Use agreed key performance indicators to monitor the effectiveness of scope delivery against agreed project outcomes
		1.2.3	Identify and manage the impact of scope change within the established governance framework
1.3	Review scope management outcomes	1.3.1	Review and record project progress, issues and outcomes to assess the effectiveness of scope management on an ongoing basis
		1.3.2	Identify scope management lessons learned and recommend improvements to higher project authority for application in projects

Range Indicators

The **project life cycle** starts at the time that a project is conceived and completes when the desired outcomes have been achieved.

Project authorisation may already have been decided before involvement of the individual, or it may be required at a number of critical review points throughout the project. It may be in the form of a **scope statement** that briefly explains why the project has been formed, what it hopes to achieve and how success will be measured.

Project deliverables may include all products and services defined within the project scope.

Scope may be comprehensively defined at the beginning of the project, or it may be progressively refined as the accuracy of information improves and understanding of the requirement is clarified

Scope may be expressed in a scope statement covering any measurable or observable elements that would demonstrate that the project purpose has been met. Scope measurement factors may include:

- percentage operating or overhead cost reduction
- quantified performance or efficiency increase
- quantified revenue or market share increase
- other means of measurement

Scope management plan covers product/ service requirements, scope definition, the work breakdown structure, scope verification, scope control processes, scope baseline, project charter, project scope statement

Scope definition may be expressed by designated, clearly defined boundaries, such as:

- product breakdown structure (a cascade of products, sub-products, assemblies and components),
- organisation breakdown structure (a cascade of resource types, skill types or activities),
- work breakdown structure (a cascade of the products and work activities), and/or
- some other form which comprehensively defines products and activities.

Scope management may include:

- progressive refinement of scope throughout project life cycle
- identifying and reporting scope creep

- identifying factors which influence changes to scope
- determining that a scope change has occurred or is about to occur
- seeking authorisation for changes to project scope
- implementing agreed scope changes
- monitoring and reporting the effect of scope changes on other areas and on achievement of project objectives

Change control procedures may be required for:

- major elements of the project liable to change, e.g. design, engineering, finance
- project documentation, including plans, schedules, statements, directives, guidelines and instructions
- formal agreements, e.g. contracts, sub-contracts, memoranda of understanding

External dependencies may include:

- customer furnished information, equipment

Underpinning Knowledge and Skills

A broad knowledge and understanding of:

- organisational processes leading to project authorisation, start-up and designation of project manager
- the place of scope management and scope control in the context of the project life cycle
- the need for scope definition during project start-up and ongoing during the project life cycle
- methods to define products and activities, e.g. work, organisation and product breakdown structures
- the components of a scope statement
- the practice of change control

Skills

- business literacy skills sufficient to interpret and analyse project plans and documentation
- planning and organising skills to monitor scope and to respond to potential and actual changes
- problem-solving and analytical skills to address project scope management issues and challenges
- negotiation skills to address changes to scope with a range of stakeholders

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- project scope documentation, including plans, schedules, statements, directives, guidelines and instructions
- the project charter, statement of work, responsibility matrix and communication plan
- work breakdown, product breakdown and organisation breakdown structures
- other scope definition documents
- change requests/change orders
- records of control of scope changes
- records that analyse scope and incorporate lessons learnt

Project Manager

Unit 2 - Plan, Manage and Review Time

Definition: *Management of project time, through the management of planning and scheduling activities, relates to the activities associated with the development, analysis, monitoring and control of project schedules. Meeting project objectives within the identified time frame is a critical factor in determining project success along with capability, cost and quality.*

Element	Performance Criteria
2.1 Plan time management	2.1.1 Determine the duration, sequencing, dependencies and work effort of tasks from the agreed scope, in conjunction with key stakeholders as the basis for the project schedule
	2.1.2 Apply appropriate methods, techniques and tools to determine the project schedule and resource requirements
	2.1.3 Develop and agree the time management plan in consultation with relevant stakeholders and higher project authority
2.2 Manage time and schedule	2.2.1 Implement and use mechanisms to measure, record and report the progress of project activities in relation to the agreed schedule
	2.2.2 Gain approval from stakeholders and higher project authorities to use the project schedule as the basis for the measurement of progress
	2.2.3 Review progress against the agreed schedule and ensure schedule alignment with all approved changes in scope, objectives, constraints and risks
2.3 Review time management and schedule outcomes	2.3.1 Review and record project progress, issues and outcomes to assess the effectiveness of time management on an ongoing basis
	2.3.2 Identify time management lessons learned and recommend improvements to higher project authority for application in projects

Range Indicators

Schedule management plan identifies the scheduling methodology, scheduling tools, the format and criteria for developing and controlling the project schedule.

Scheduling tools and techniques may include:

- critical path diagrams
- key activity schedules
- Gantt charts
- resource levelling

- project schedule network diagrams
- Critical Chain management
- industry standard project management planning and scheduling software tools
- variance analysis
- schedule compression and analysis

Time management activities may:

- be done independently within broad guidance or by taking the lead of a team
- involve consultation with other project members, teams and internal stakeholders
- involve the selection, use and supervision of appropriate time management methods, tools and techniques
- be conducted routinely or as changing circumstances dictate
- take into account internal organisational change and external environmental change

Time Management Plan, includes instructions for:

- Visibility of the current schedule baseline
- Documentation of schedule assumptions
- Version control of schedule
- Responsibilities, frequency and method for schedule progress analysis
- Methods of variance analysis
- Reporting procedures for progress status
- Change control protocols for schedule updates

Information to be drawn on may include:

- organisation guidelines and instructions
- the project management body of knowledge
- designated legislation and conventions affecting project management practice

Time management tools and techniques may involve:

- use of personal experience and/or subject matter experts,
- conducting or supervising qualitative and/or quantitative time analysis, such as schedule simulation, decision analysis, contingency planning, alternative strategy development
- using specialist time analysis tools to assist in the decision making process

Communication advice and assistance may be provided by other project managers, the program manager, section heads and/or specialists within the organisation. Liaison with the client organisation and external authorities would normally be within agreed authorisation and reporting requirements.

Records may take the form of:

- lists of variances and forecasts of potential schedule events
- Gantt, PERT and other scheduling charts
- diaries, incident logs, occurrence reports and other such records
- records of analysis, evaluation of options, recommended and approved courses of action
- project and/or organisation files and records

Processes may include:

- setting key milestones
- measurement of actual progress against planned milestones
- recording and reporting of major variance
- implementation of schedule control trigger mechanisms
- communication with stakeholders, dispute resolution, and modification procedures

Underpinning Knowledge and Skills

A broad knowledge and understanding of:

- the need to link time, cost and resources to the project schedule
- responsibilities for time management
- development of project schedules
- use of the schedule as a control mechanism
- the place of time management in the context of the project life cycle and other project management functions
- appropriate time management methodologies, their capabilities, limitations, application and outcomes

Skills

- literacy skills to read, develop and interpret project schedules
- self management skills to ensure vision and priorities are clear
- organisational skills to sequence tasks and see that objectives are met
- communication skills to convey expectations and to advise others of progress
- technology skills to use appropriate software to develop project schedules
- analytical skills to review and evaluate process.

<i>Evidence Guide</i>

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- project work breakdown structure
- analysis of options to identify variances and the forecast of the impact of changes on the schedule
- key activity schedule
- application of precedence and dependency principles to task definition
- project schedule
- regular schedule reports to stakeholders and higher authority
- application of monitoring, review and reporting mechanisms
- application of actual progress against planned progress
- records of recommendations for and corrective actions taken against variances in the project schedule
- records of lessons learned

Project Manager

Unit 3 - Plan, Manage and Review Cost

Definition: *The management of cost, cost estimating and project budgeting includes the processes required to identify, analyse and refine project costs, project billings and project cash to produce a project budget which is then used as the basis upon which to monitor and control project accounting. Cost management and budgeting are factors critical to the success of the project, along with capability, time management, planning and scheduling and quality.*

Element	Performance Criteria
3.1 Plan cost management	3.1.1 Determine resource requirements for individual tasks with input and guidance from key stakeholders
	3.1.2 Use appropriate methods to estimate project costs and develop project budgets, ensuring appropriate budget contingency is included
	3.1.3 Develop and agree the cost management plan and project budget in consultation with relevant stakeholders and higher project authority
3.2 Manage budget and costs	3.2.1 Implement agreed project budget monitoring and control processes
	3.2.2 Monitor and control actual project billings, project expenditure and project cash flow against the project budget and forecast
	3.2.3 Analyse budget variations, determine causes and recommend actions to control budget within constraints
	3.2.4 Implement, monitor and modify agreed actions to maintain the project budget in alignment overall project objectives throughout the project life cycle
	3.2.5 Conduct project financial close-out in accordance with organisational procedures
3.3 Review budget and cost outcomes	3.3.1 Review and record project progress, issues and outcomes to assess the effectiveness of cost management on an ongoing basis
	3.3.2 Identify cost management lessons learned and recommend improvements to higher project authority for application in projects

Range Indicators

Cost estimate methods include:

- cost of quality

- analogous estimating
- bottom-up estimating
- resource cost rates
- funding limit reconciliation
- parametric estimating
- reserve analysis
- Cost As an Independent Variable (CAIV)
- Delphi or PERT method
- Function point analysis

Cost management techniques and tools may include:

- industry standard cost management software
- enterprise financial reporting system
- methodologies such as Earned Value Analysis, Cost Aggregation, Cost Change Control System

Cost management plan identifies how costs will be controlled, estimates units of measure, estimating precision, permissible variance thresholds, earned value rules and reporting formats

Cost control may include:

- forecasting
- performance measurement analysis
- variance management
- value of work done
- earned value

Cost management activities may:

- be done independently within broad guidance or by taking the lead of a team
- involve consultation with other project members, teams and internal stakeholders
- involve the selection, use and supervision of appropriate time management methods, tools and techniques
- be conducted routinely or as changing circumstances dictate
- take into account internal organisational change and external environmental change

Information to be drawn on may include:

- organisation guidelines and instructions
- the project management body of knowledge
- designated legislation and conventions affecting project management practice

Communication advice and assistance may be provided by other project managers, the program manager, section heads and/or specialists within the organisation. Liaison with the client organisation and external authorities would normally be within agreed authorisation and reporting requirements.

Financial management **processes and procedures** may include:

- approval processes
- financial authorisations/delegations
- invoice procedures
- communication and reporting

Accuracy of **cost estimates** may take account of:

- the stage of the project life cycle
- the availability of information at the time
- contingency to allow for identified risks and uncertainty
- organisational requirements, e.g. overhead and profit margin

Project reviews may be conducted on completion of:

- agreed major milestones, e.g. phases, sub-contracts
- delivery of major deliverables

- change of key personnel
- finalisation of project and other agreed milestones

Records may take the form of:

- lists of potential costs
- invoice and payment summaries
- budgets, commitment and expenditure
- cost management plans
- reports to higher authority
- recommended and approved courses of action
- project and/or organisation files and records
- cost management lessons learned

Underpinning Knowledge and Skills

Broad knowledge and understanding of:

- the need to link time, cost and resources to the project framework
- acceptance of responsibilities for cost management
- the principles and practice of earned value management
- cost management process inputs, outputs, and tools & techniques
- the concepts of estimating, budgeting and controlling costs
- the concepts of planned value, earned value, actual costs and forecasting for cost control
- development of project budgets and expenditure forecasts
- use of the budgets and expenditure forecasts as control mechanisms
- the place of cost management in the context of the project life cycle and other project management functions
- appropriate cost management methodologies, their capabilities, limitations, application and outcomes

Skills

- numeracy and budgeting skills to monitor expenditure and manage costs
- analytical skills to forecast activity costs, evaluate processes and recommend improvements
- technology skills to use software for recording expenditure and reporting on finances
- literacy skills to document reasons for variations and prepare financial reports

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- cost estimates
- cost management plans and strategies
- cost breakdown structures
- analysis of variations outside of agreed parameters
- project budgets and expenditure forecasts
- financial transition plans
- records of project finalisation activities and disposal of project assets
- project finalisation reports
- records of cost management lessons learned

Project Manager

Unit 4 - Plan, Manage and Review Quality

Definition: Project quality management comprises the activities required to optimise the implementation of the current quality policy and the required processes for the project. Quality management applies objective standards and processes to achieve the largely subjective goal of customer satisfaction through the continuous application of quality planning, quality control, quality assurance and continuous improvement throughout the project life cycle.

Element	Performance Criteria
4.1 Plan quality management	4.1.1 Determine project quality objectives , standards and levels, with input from key stakeholders
	4.1.2 Identify and agree with key stakeholders, quality management methods, techniques and tools appropriate to the project and the organisation
	4.1.3 Identify quality acceptance criteria and obtain agreement from relevant stakeholders and appropriate higher authorities
	4.1.4 Develop and agree the quality management plan in consultation with relevant stakeholders and higher project authority
4.2 Manage quality	4.2.1 Measure and document results of project activities and product performance in accordance with agreed quality acceptance criteria and the quality management plan
	4.2.2 Identify causes of unsatisfactory quality results and, in consultation with key stakeholders, take agreed corrective action(s)
4.3 Review quality management outcomes	4.3.1 Review and record project progress, issues and outcomes to assess the effectiveness of quality management on an ongoing basis
	4.3.2 Identify quality management lessons learned and recommend improvements to higher project authority for application in projects

Range Indicators

Quality management plan will incorporate how quality policies will be implemented. It covers quality control, quality assurance and continuous process improvement approaches for the project.

Quality management methods, techniques and tools may include approaches such as, Total Quality Management, Lean Management, Six Sigma and Kaizen.

Quality management techniques may include:

- quality by design,

- business process analysis,
- balanced scorecards,
- benchmarking and performance measurement,
- total productive maintenance
- overall equipment effectiveness

Continuous improvement methodologies may include:

- AIPM Project Managed Organisation (PMO) Certification
- Organisational Project Management Maturity Model (OPM3),
- Capability Maturity Model (CMM),
- Capability Maturity Model Integration (CMMI)

Quality management activities may:

- be done independently within broad guidance or by taking the lead of a team
- involve consultation with other project members, teams and internal stakeholders
- involve the selection, use and supervision of appropriate quality management methods, tools and techniques
- be conducted routinely or as changing circumstances dictate
- take into account internal organisational change and external environmental change

Information to be drawn on may include:

- organisation guidelines and instructions
- the project management body of knowledge
- Australian and international quality standards
- designated legislation and conventions affecting quality management practice

Communication advice and assistance may be provided by other project managers, the program manager, section heads and/or specialists within the organisation. Liaison with the client organisation and external authorities would normally be within agreed authorisation and reporting requirements.

Quality Management Systems may be based on ISO 9000 Series or they may be specifically designated by the organisation.

Quality Management Plans may include established processes, authorisations and responsibilities for quality control, quality assurance, and continuous improvement. They may also contain endorsed quality policies, critical success factors, measurement criteria, QM documentation requirements, and inspection, audit, report and review procedures.

Quality objectives may be determined in consultation with the client and other stakeholders, as well as advice from higher project authority. This process may require prioritisation and trade-off between cost, schedule, performance and quality which may impact upon customer satisfaction.

Quality standards may be selected or designated by higher project authority from:

- ISO 9000 Series guidelines
- government regulations (e.g. Trade Practices Acts, Environment Protection Acts)
- industry standards, regulations and work practices
- organisation and project standards
- client organisation standards

Quality Control activities may range from monitoring conformance with specifications to recommending ways to eliminate causes of unsatisfactory performance of products or processes. Quality control activities may involve the monitoring of regular inspections by internal or external agents.

Quality Assurance activities may include inspections and audits in compliance with quality control guidelines.

Quality improvement may be achieved by formal practices such as total quality management or continuous improvement or by less formal processes which improve both the product quality and processes of the project, eg client surveys to determine client satisfaction with project team performance

Quality management tools may be used to chart processes, group work activities, rank applicants, define control limits and/or indicate variation. Quality tools may include: brainstorming, cost benefit analysis, flowcharts, benchmarking, histograms, Pareto charts, scattergrams, run charts, control charts.

Underpinning Knowledge and Skills

Broad knowledge and understanding of:

- the principles of quality management and their application
- quality processes, quality planning, perform quality assurance, perform quality control
- quality management systems, methodologies and tools
- continuous improvement methodologies
- knowledge of quality auditing processes and requirements
- acceptance of responsibilities for quality management
- use of quality management systems and standards
- the place of quality management in the context of the project life cycle
- appropriate quality management methodologies; their capabilities, limitations, applicability and contribution to project outcomes

Skills

- literacy skills to develop quality objectives and criteria and report on quality outcomes
- communication skills to inform staff and stakeholders of performance, convey expectations and ensure outcomes are met
- analytical skills to monitor achievement of project outcomes against quality criteria and

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- documented quality requirements in the project plan and processes
- documentation on results of project activities and product performance that identify compliance with agreed quality standards
- application of quality management and continuous improvement techniques
- documentation of causes of unsatisfactory outcomes that were submitted to a higher project authority for continuous improvement purposes
- lists of quality objectives, standards, levels and measurement criteria
- records of inspections, recommended rectification actions and quality outcomes
- management of quality management system and quality management plans
- application of quality control, quality assurance and continuous improvement processes
- records of quality reviews
- lists of lessons learned and recommended improvements

Project Manager

Unit 5 - Plan, Manage and Review Project Human Resources

Definition: *The process of project human resource management (HRM) involves the development of individuals into a cohesive project team with the common purpose of meeting project objectives. HRM includes determining the resources required to manage project tasks, both within the core project team and the broader organisational matrix. Staff recruitment, selection, performance management, training and development are conducted to accommodate change throughout the project life cycle.*

Element	Performance Criteria
5.1 Plan project human resource management	5.1.1 Determine project human resource requirements for individual tasks, with input from stakeholders and guidance from higher project authorities, to determine project staffing levels and required competencies
	5.1.2 Establish project organisation and structure to align individual and group competencies with project requirements
	5.1.3 Ensure appropriate OH&S requirements are considered for application throughout the project life cycle
	5.1.4 Allocate staff within the project, with the approval of a higher project authority where necessary, to meet work requirements throughout the project life cycle
	5.1.5 Develop and agree the project human resource management plan in consultation with relevant stakeholders and higher project authority
5.2 Manage project human resources	5.2.1 Communicate designated staff responsibilities, authority and personal performance measurement criteria to ensure clarity of understanding of the work and to provide a basis for ongoing assessment
	5.2.2 Monitor and take action to rectify any gaps in individual or group skills and knowledge, to assist in the achievement of overall project objectives
	5.2.3 Monitor internal and external influences on individual and group performance and morale and take remedial action where necessary
	5.2.4 In alignment with organisational requirements, implement established procedures for interpersonal communication, counselling and conflict resolution to maintain a positive working environment

	Element		Performance Criteria
5.2	Manage project human resources (<i>continued</i>)	5.2.5	Review stakeholder expectations to ensure the project is on track to deliver expected outcomes, on an ongoing basis
		5.2.6	Monitor and provide supportive feedback on individual and team performance
		5.2.7	Manage and report any OH&S issues affecting the project
5.3	Review project human resource management outcomes	5.3.1	Review and record project progress, issues and outcomes to assess the effectiveness of project human resource management on an ongoing basis
		5.3.2	Identify project human resource management lessons learned and recommend improvements to higher project authority for application in projects

Range Indicators

Project Human Resource Management plans may be a separate document or form part of the Project Management Plan. The project human resources management plan would contain specific to project information on:

- staff recruitment/acquisition strategies,
- roles and responsibilities,
- reporting relationships,
- staff release plan,
- training needs strategies,
- performance reward and recognition strategies,
- staff succession plan
- employment compliance approaches, and
- OH&S policy and procedures

Projects may be independent, or based on a matrix **organisation**, depending on:

- organisational policy
- higher authority direction
- personnel availability
- recruitment lag times
- changing requirements at different stages in project life cycle

Project organisation and staffing may be affected by established organisational responses to external influences such as:

- anti-discrimination
- equal employment opportunity
- affirmative action
- occupational health and safety
- work place bargaining
- accepted work practices

Project staff may come from:

- within the organisation
- loan staff from other projects

- consultants
- contractors
- external authorities, e.g. auditors, quality assurance

HRM methods, techniques and tools may include established organisation responses to:

- individual and group competency identification and development
- HRM forecasts, staffing plans and job descriptions
- staff recruitment and reallocation
- performance monitoring, assessment and reporting
- conflict resolution

Human resource development and training may be undertaken formally or informally, and may include:

- action learning sets
- coaching and mentoring
- performance feedback
- team building and group activities
- networking
- training and seminars

Underpinning Knowledge and Skills

Broad knowledge and understanding of:

- the importance of HRM in the project management environment
- human resource development practices such as mentoring, coaching, etc.
- established organisational policies, standards and methods required to achieve HRM outcomes
- the use of established HRM selection, assignment, training, performance evaluation and motivation tools
- the conflict and stress issues associated with individuals tasked with project management, especially within a human resource matrix management environment
- HRM outcomes, critical success and failure criteria and HRM performance measures
- the application of interpersonal skills
- assessment of interpersonal strengths and weaknesses
- the differences in work content, processes and risk that affect HRM requirements in the various phases of the project life cycle

Skills

- planning skills to identify skills required and to allocate project responsibilities to staff
- communication and leadership skills to motivate staff, convey expectations and ensure outcomes are met
- interpersonal skills to resolve conflict
- coaching and mentoring skills to boost performance
- analytical skills to review project and to identify improvements

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- assessment of skill levels for project personnel against project task requirements
- staffing levels and competencies related to task
- job descriptions including measures of performance
- identification of staff skill sets for staff development and training outcomes
- project organisation charts
- staff recruitment and selection criteria
- team and individual responsibilities, levels of authority and performance assessment criteria
- responsibility assignment matrix/RACI charts

- Agile tasking methods
- HRM plans and procedures
- records of internal and external influences on HRM performance
- analysis of the effectiveness of HRM processes, procedures and tools, recommendations for improvement and lessons learnt

Project Manager

Unit 6 - Plan, Manage and Review Communication

Definition: Project communications management provides a critical link between stakeholders, their ideas and information at all stages in the project life cycle. Project communications management ensures the timely and appropriate generation, collection, dissemination, storage and disposition of project information via formal structures and processes to aid the achievement of project objectives.

Element	Performance Criteria
6.1 Plan communication management	6.1.1 Identify, document and analyse information requirements, with input from stakeholders and guidance of other project authorities, to provide a basis for communications planning
	6.1.2 Establish and apply a project management information system , with appropriate structure and procedures to ensure the quality, validity, timeliness and integrity of information and communication
	6.1.3 Develop and agree the communication management plan in consultation with relevant stakeholders and higher project authority
6.2 Manage Communications	6.2.1 Implement, modify, monitor and control information validation processes to optimise quality and accuracy of data
	6.2.2 Manage the generation, gathering, storage, retrieval, analysis and dissemination of information by project staff to aid decision making processes throughout the project life cycle
	6.2.3 Implement and maintain agreed communication networks between project staff, client and other stakeholders to ensure effective communications and collaboration at appropriate levels throughout the project life cycle
	6.2.4 Monitor communication and information management activities for issues, and identify and implement agreed remedial actions to ensure project communication requirements are met
	6.2.5 Draft project reports and confirm their content to ensure alignment to actual project progression for release to established recipients
	6.2.6 Maintain relationships with stakeholders within established guidelines to ensure awareness of project objectives, project progression and to help reduce conflict throughout the project life cycle
	6.2.7 Manage the appropriate disposal or transfer to the Business of project information and documents in accordance with organisational guidelines

Element	Performance Criteria
6.3 Review communication management outcomes	6.3.1 Review and record project progress, issues and outcomes to assess the effectiveness of communication management on an ongoing basis
	6.3.2 Identify communication management lessons learned and recommend improvements to higher project authority for application in projects

Range Indicators

Communications management plan may list which team member is responsible for particular communication activities, what stakeholders need what information, when information is communicated and distributed, the protocols for communicating information and methods of distribution

Project information requirements, includes

- standard PMIS data, e.g. scope, time, cost etc;
- project technical documentation
- commercial documentation
- project specific data such as IP or asset registers
- correspondence registers
- project directory structures

Performance reports may include: updating stakeholders with various types of performance data such as project status, earned value, variance, trends, progress, etc

Communications management activities may:

- be done independently within broad guidance or by taking the lead of a team
- involve consultation with other project members, teams and internal stakeholders
- involve the selection, use and supervision of appropriate communications management methods and tools
- be conducted routinely or as changing circumstances dictate
- take into account internal organisational change and external environmental change

Formal and informal communication networks may be maintained within the project, the organisation, with the client organisation and with end users, within the limits of authorisation of personnel concerned

Project Management Information Systems (PMIS) range from complex computer-based systems to simple manual systems. An organisation designated PMIS may need to be modified to cater for unique project requirements, such as:

- project complexity and duration
- available technology
- financial constraints
- user capabilities

Underpinning Knowledge and Skills

Broad knowledge and understanding of:

- the principles of communications management and their application
- acceptance of responsibilities for communications management
- maintenance of project management information systems and communications networks
- drafting, vetting, approving, obtaining endorsement and forwarding of reports to higher authority

- the place of communications management in the context of the project life cycle and other project management functions
- appropriate communication management technologies; their capabilities, limitations, applicability and contribution to project outcomes

Skills

- literacy skills to write reports and communicate key issues
- technology skills to facilitate effective communication
- organisational skills to manage information
- analysis skills to validate information and reports

<i>Evidence Guide</i>

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- communications management plans
- communications activities and correspondence with staff and stakeholders
- PMIS structure and procedures
- Project progress reports
- records of collection, validation, storage, retrieval, analysis and/or dissemination of information
- records of meetings
- post-validation process modifications
- records of communications problems and solutions

Project Manager

Unit 7 - Plan, Manage and Review Project Risk

Definition: Risks are factors that might affect project outcomes. The Risk management process consists of seven steps: communicate and consult; establish the context; identify risk; analyse risk; evaluate risk; treat risk and monitor and review risk in order to maximise opportunity and minimise the consequences of adverse events. The risk management process is completed through the review of the plan and recording of lessons learned

Element		Performance Criteria	
7.1	Plan project risk management	7.1.1	Determine appropriate risk management processes and methods to enable the effective management and communication of project risk events, responses and results
		7.1.3	Establish a project risk register in accordance with organisational requirements
		7.1.3	Identify, document and analyse project risks and opportunities in consultation with stakeholders
		7.1.4	Use established risk management techniques and tools to evaluate risks, assess options, and determine appropriate risk treatment and subsequent mitigation (as appropriate) plans
		7.1.5	Assign the management of individual risk plans to those who are in the best position to deal with the risks
		7.1.6	Develop and agree the project risk management plan in consultation with relevant stakeholders and higher project authority
7.2	Manage project risks, opportunities and issues	7.2.1	Implement agreed risk management strategies , modifying as necessary to reflect emergent conditions, stakeholder needs or changing project objectives
		7.2.2	Identify and present project opportunities and threat reduction actions to higher authority for consideration and approval, implementing approved changes as necessary
7.3	Review project risk management outcomes	7.3.1	Review and record project progress, issues and outcomes to assess the effectiveness of project risk management on an ongoing basis
		7.3.2	Identify risk management lessons learned and recommend improvements to higher project authority for application in future projects

Range Indicators

Risk Management Processes may include:

- setting key milestones at significant points during the project and at completion
- measurement of actual progress against planned milestones
- recording and reporting of major variance
- implementation of risk control trigger mechanisms
- communication with stakeholders, dispute resolution, and modification procedures
- understanding current Occupation, Health and Safety issues

Risk Management Methods include:

- brainstorming
- cause and effect modelling
- risk probability and impact assessment
- probability and impact matrix
- risk data quality assessment
- risk categorization
- risk urgency assessment

Risk management techniques and tools may involve:

- use of Risk Mgt IT Systems,
- calling upon personal experience and subject matter experts,
- conducting or supervising qualitative and/or quantitative risk analysis, such as scenario-based schedule simulation, Monte Carlo Analysis, decision analysis, contingency planning, alternative strategy development
- using specialist risk analysis tools to assist in the decision making process

Risk management plan contains information for all project stakeholders on:

- how project risks are to be identified
- appropriate risk methods to be used
- tools, roles and responsibilities in regard to risk management
- appropriate risk categories and priorities for the project
- definitions of risk probability and impact
- stakeholder tolerances
- specific risk management strategies
- how project risks will be tracked

Monitoring risks may involve:

- Risk Reassessment
- Risk Audits
- Variance and Trend Analysis
- Technical Performance Information
- Reserve Analysis
- Status Meetings
- variance and trend analysis
- Risk Register and updates
- requested changes
- recommended corrective actions
- recommended preventative actions

Risk management strategies include;

- determining the organisational risk appetite, and thresholds for risk acceptability
- transferring risk to another party
- avoiding the risk

- reducing the negative effect of the risk
- accepting some or all of the consequences of a particular risk

Underpinning Knowledge and Skills

Broad knowledge and understanding of:

- Importance of Risk in regards to Project Integration Management
- risk response planning covering, avoidance, transfer, mitigation, acceptance and sharing.
- risk management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, risk monitoring and control
- personal attitudes to uncertainty and risk, and how they might impact on the project's approach to risk management
- the place of risk management in the context of the project life cycle
- appropriate risk management methodologies, their capabilities, limitations, applicability and outcomes

Skills

- literacy skills to write risk management plans
- communications skills to discuss risks and opportunities with stakeholders
- problem-solving skills to control risks and issues
- lateral thinking skills to identify potential project risks
- planning and organisational skills to monitor project progress
- analytical skills to review project outcomes in terms of risk management

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- the identification and prioritisation of risks
- application of lessons learned from previous project(s) in planning new project
- the analysis of risks and opportunities
- communication of risk events, responses and results to stakeholders
- lists of potential risk events
- records of identification and prioritisation of risk events
- risk management plans
- reports of variance and recommendations for action
- details of conduct of risk reappraisal
- the effectiveness of risk management processes, procedures and tools, recommendations for improvements and risk management lessons learned

Project Manager

Unit 8 - Plan, Manage and Review Procurement

Definition: Project procurement management involves the management of contracting activities from formation, such as product and contract definition, market analysis through the tendering process up to contract formation, to contract performance, management and administration after contract award. Project procurement management concludes with contractual aspects of the project finalisation processes. Whether involvement in the procurement process is as the client, the prime contractor, or as a sub-contractor, may influence the perspective from which the procurement activities are addressed, however similar project management processes would normally apply.

Element		Performance Criteria	
8.1	Plan procurement requirements	8.1.1	Identify procurement requirements, with input from stakeholders and the guidance of higher project authorities, as the basis for procurement planning and contracting
		8.1.2	Obtain information from sources capable of fulfilling procurement requirements to determine the extent to which project objectives can be met
		8.1.3	Adopt established selection processes and selection criteria and communicate to stakeholders and prospective contractors or suppliers to ensure fair competition
		8.1.4	Develop and agree the procurement management plan in consultation with relevant stakeholders and higher project authority
8.2	Manage contract and/or procurement	8.2.1	Communicate requirements and/or specifications to prospective contractors or suppliers to ensure clarity of understanding of project objectives
		8.2.2	Evaluate responses from potential suppliers and select preferred supplier in accordance with current legal requirements and agreed selection processes
		8.2.3	Conduct negotiations with the preferred contractor or supplier, with guidance from a higher project authority if necessary, to agree on contract terms and conditions, establish common goals and minimise uncertainty
		8.2.4	Manage procurement issues and changes within approved scope to ensure timely completion of tasks, resolution of conflicts and achievement of project objectives within the legal framework of the contract
		8.2.5	Ensure payments to suppliers reflect services performed and products delivered
		8.2.6	Identify and report procurement issues, together with recommendations, to a higher project authority when necessary, implementing authorised remedial action(s)

	Element		Performance Criteria
8.2	Manage contract and/or procurement <i>(continued)</i>	8.2.7	Manage finalisation activities to ensure procurement deliverables meet contracted / agreed requirements
8.3	Review contract and procurement management outcomes	8.3.1	Review project progress, issues and outcomes to determine the effectiveness of procurement management on an ongoing basis
		8.3.2	Identify procurement lessons learned and recommend improvements to higher project authority for application in other projects

Range Indicators

Procurement management plan may include types of contracts used, contract administration, contract closure, acquisition criteria, procurement statements of work, selection criteria, preferred suppliers and it describes how procurement will be managed and executed

Procurement administration tools

- Contract Change Control System
- Buyer-Conducted Performance Reviews
- Inspections and Audits
- Performance Reporting
- Payment System
- Claims Administration
- Records Management System

Procurement management activities may:

- be done independently within broad guidance or by taking the lead of a team
- involve consultation with other project members, teams and internal stakeholders
- involve the selection, use and supervision of appropriate procurement management methods, tools and techniques
- be conducted routinely or as changing circumstances dictate
- take into account internal organisational change and external environmental change

Updates and modification may be conducted:

- independently or with higher project authority endorsement if necessary
- regularly throughout the project life cycle
- in consultation with project team members, section heads, project manager and stakeholders
- taking into account internal organisational change and external environmental change

Contracts or formal arrangements would normally be designated by higher project authority, and may take the form of:

- a single contract
- several contracts
- memoranda of understanding
- standard agreement
- verbal agreements

Project procurement policy may be influenced by:

- government law, regulations and guidelines
- industry standards and guidelines

- organisation policy, practices and procedures
- limiting factors within the project

Procurement records may take the form of:

- product specifications
- procurement management plans
- contract documentation
- contractor selection criteria, processes and recommendations
- contract negotiation documentation
- contract change proposals and approvals
- test and acceptance procedures and documentation
- contract discharge and asset disposal registers

Procurement management plans may define tasks and assign responsibilities for the development, management, administration, performance, test and acceptance and discharge procedures in accordance with endorsed organisational policy.

Underpinning Knowledge and Skills

Broad knowledge and understanding of:

- the principles of procurement management and their application
- the principles of contracts and contractual legal requirements from the project management perspective
- the selection of appropriate formal arrangements and the legal implications of such agreements
- contract negotiation skills
- procurement management processes and procedures

Skills

- problem-solving skills to resolve contractual and logistic issues
- negotiation skills to obtain required agreement in procurement and contracting discussions
- planning and organisational skills to identify procurement and contract requirements and to adjust and sequence these appropriately
- literacy and numeracy skills to produce and work with a range of procurement and contract documentation
- technology skills to use procurement and financial management software

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- procurement management plan, strategies and documented processes
- contract documentation especially attachments relating to a project
- records of evaluation and selection of preferred contractors
- records of involvement in contract negotiations
- progress measurement and conflict resolution process records
- contract change procedures and documentation
- records of test and acceptance procedures and documentation
- records of contract discharge procedures and documentation
- reports on the effectiveness of risk management processes, procedures and tools, recommendations for improvements and risk management lessons learned

Project Manager

Unit 9 - Plan, Manage and Review Integration

Definition: “There is no single way to manage a project... Project Integration Management is about applying “...project management knowledge, skills, and processes in different orders and degrees of rigor to achieve the desired project performance”, PMBOK® Guide Fourth Edition.

Project Integration Management begins when a project is conceived and continues throughout planning, execution and closure. The need for integration is evident where project information or activities overlap/interact – typically this relates to: all PCSPM Competency Areas; project methodology and organisational policies and procedures; and the interaction between the project and its surrounding environment in factors which have the potential to influence the project’s success – and ultimately the realisation of benefits as defined in the Business Case.

Element		Performance Criteria	
9.1	Plan Project Integration	9.1.1	Review (or develop and gain approval if needed) the Project Authorisation Document
		9.1.2	Identify and agree, with higher project authority and relevant stakeholders appropriate Project Management Methodology and Project Control System requirements to manage the project
		9.1.3	Confirm the sponsoring organisation’s position on the use of a Project Methodology and Project Management Framework (if one exists), to identify project integrative-relevant processes are adopted
		9.1.4	Develop and agree the Project Management Plan with relevant stakeholders and higher project authority, in consideration of Project Authorisation document(s) to achieve project objectives
9.2	Manage Project Integration	9.2.1	Apply Project Control Systems identified in the Project Management Plan
		9.2.2	Ensure the Project Control Systems are providing data and information for review by the Project Manager and use in managing the project and in verifying that these processes are effective
		9.2.3	At appropriate points in the project as defined in the Project Management Plan, ensure relevant acceptances and approvals are obtained as pre-requisites to Transition Into Service
		9.2.4	Review stakeholder expectations to resolve expectation variance and ensure the project is on track to deliver agreed and expected outcomes

Element		Performance Criteria	
9.2	Manage Project Integration <i>(continued)</i>	9.2.1	Apply Project Control Systems identified in the Project Management Plan
		9.2.5	Manage delivery of Transition Into Service
		9.2.6	Ensure relevant acceptance and approval is obtained as pre-requisite to Project Finalisation
		9.2.7	Initiate and manage Project Finalisation
9.3	Review Project Integration outcomes	9.3.1	Review and record project progress, issues and outcomes to assess the effectiveness of integration management on an ongoing basis
		9.3.2	Identify integration management lessons learned and recommend improvements to higher project authority for application in other projects

Range Indicators

Project Authorisation Document: The document that formally authorises the project. This authorisation could be contained in documents of different names according to the organisation, methodology or industry context. For example, Project Charter, Business Case or Project Mandate. The Project Manager should use this document to identify important information to be integrated into a Project Management Plan.

Project Management Framework: A formal structure, which could include - methodology, standards, policies, procedures, processes, templates tools, employed by an organisation to manage projects.

Project Methodology: A structured “systems” approach to managing a project – with the amount of documentation scaled appropriately. It is a system of inter-related phases, procedures, activities and tasks that define the project process from the start through to completion. Its structure enables project control, aligns work with deliverables and decision-making with governance.

The **Project Management Plan (PMP)** development process defines and integrates all subsidiary plans (either directly or by reference to an external document) into a single PMP. Its content will vary according to the circumstances and complexity of each individual project. The PMP is regularly reviewed and updated throughout the life of the project – and is managed under an agreed formal change control process.

The PMP defines how the project will be executed, monitored, controlled and closed. The PMP development process MUST ADDRESS ALL Competency Areas. (NOTE: Depending on the project, some processes may not be required.)

The Project Management Plan will contain (either directly or with reference to a separate document):

- Project Scope Management Plan
- Project Time Management Plan
- Project Cost Management Plan
- Project Quality Management Plan
- Project Human Resource Management Plan
- Project Communication Management Plan
- Project Risk Management Plan
- Project Procurement Management Plan
- Project Integration Management Plan

Stakeholder Expectations: Stakeholders can have varied and conflicting objectives. Their expectations can relate to things like: project performance (time, cost), quality of deliverables, business benefits, adherence to process, personal reward/acknowledgement. As such, managing expectations necessitates integration in planning and management across functional areas such as: risk, communication, quality, time, cost and scope.

Project Control Systems are used to monitor, control and manage project performance. Project control begins early in the project with planning and ends late in the project with post-implementation review, having a thorough involvement of each step in the process. The level of Project Control should be commensurate with the needs of the project (giving consideration to complexity, risk and legal obligations). Too much control is inefficient and adds little value – too little control could increase risk to project performance and benefits realisation.

Project Control Systems could be many and varied according to the needs of the project. They may include: Scope, Governance, Cost, Risk, Issues, Configurable Items, Safety, Security, Quality, Communication, Time, Change, Procurement, Document and Information Management, and Human Resources.

The **internal environment** may include:

- physical location of project
- layout of project personnel and equipment
- personal working conditions
- team dynamics

- identity and differentiation of the project within the larger environment

The **external environment** may include:

- the parent organisation, enterprise, industry
- employee representative groups, e.g. unions, professional associations, lobby groups
- political, social and societal influences
- public and media interest
- the physical environment, e.g. geography, ecology, sensitivity
- external stakeholder expectations

Project Finalisation activities may include:

- transition of responsibility/ownership of project deliverables/products
- transfer of assets to the client or originating owner
- warranty requirements
- project evaluation
- final audit/reconciliation
- settling of financial liabilities
- finalisation of account codes and other financial documentation
- forwarding finalisation report to higher project authority

Integration management issues and recommended improvements may include evaluation of the effectiveness of established success and failure criteria and suggestions for improvement. Lessons learned may be reflected in changes to knowledge, training programs, data records and process instructions

Underpinning Knowledge and Skills

A broad knowledge of PMBOK® Guide

A broad knowledge and understanding of:

- the project process, the project life-cycle and the relationship between project phases
- planning and control procedures, resource management and risk management
- a range of suitable methodologies, techniques and tools available to project managers
- the application of leadership and management within a project environment
- internal and external environment factors that may affect the project

Skills

- literacy skills to write project plans, progress reports and project communications
- analysis skills to determine the appropriate project phases, approval points and review points
- teamwork and communication skills to lead the project team and deal with stakeholders
- time management skills to ensure priorities are addressed
- planning and organising skills to manage the integration of project activities

Evidence Guide

The following documentation or components of the documentation, completed by the individual, can provide supporting evidence:

- records of evaluation and consultative processes to determine achievable project objectives
- project plans and sub-plans covering the nine functions of project management
- demonstration of processes for linking and co-ordination of project control mechanisms
- records of evaluation of impact of organisation and other environment on project objectives
- records of implementation of project phases and milestones
- records of measurement and reporting of progress in relation to established baselines
- finalisation plans

- lists of integration management issues and recommended improvements