Investment Lifecycle and High Value High Risk Guidelines

Delivery

(formerly Implement)

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# Context

Share the vision and work together with stakeholders to deliver it.

## Purpose of the guideline

This guideline addresses the processes and requirements of delivering investments, the third stage of the investment lifecycle, including construction and commissioning, implementation or delivery.

Delivery is about delivering the project according to a contract established in *Stage 2: Procurement*. As well as essential contract management, project governance and risk management tasks, there may be significant stakeholder management demands, including an expectation that delivery will be on time and on budget.

Figure 1: The three stages of the investment management process

|  |  |  |  |
| --- | --- | --- | --- |
| **Business case** | **Procurement** | **Delivery** | **Gateway–Benefits evaluation** |
| **Establishes need, defines benefits, explores interventions, estimates costs, identifies delivery process.** | **Explores delivery options, finalises delivery plan, engages the market, awards the contract.** | **Implements solution, transitions investment into normal business.** |
| What is the problem, issue or service need?  What are the benefits from addressing the problem?  Is there a compelling case for investing?  Can the project be delivered as planned? | What is the preferred method for delivering the investment? | Is the investment proceeding as planned?  Are changes to the investment needed? |

This guideline is concerned with the third stage of the investment lifecycle. It is part of the **Investment Lifecycle and High Value High Risk (HVHR) Guidelines** and supplementary material. Of particular relevance for this stage are the technical guidelines on the procurement strategy, governance and risk management used in the development of the business case.

The guidelines address specific requirements for projects classified as ‘high value or high risk’[[1]](#footnote-1) investments, but can be used for any investment, whatever its type, complexity or cost. It also refers to related processes and guidance material regarding delivery available at [www.dtf.vic.gov.au/infrastructure-investment/investment-lifecycle-and-high-value-high-risk-guidelines](https://www.dtf.vic.gov.au/infrastructure-investment/investment-lifecycle-and-high-value-high-risk-guidelines)

**Note:** the Guidelines are not a comprehensive source or an alternative to project management techniques. Government agencies are encouraged to adapt the Guidelines to their specific requirements and to seek advice about specific project issues if they are not covered here.

In 2019, the Guidelines were amended to require the following documents for all HVHR projects:

* change control register; and
* project closure report.

To support agencies preparing these documents, templates are available on the DTF website.

The change control register should be periodically reviewed where there is a change to the project. In addition to standard documents such as the risk register and financial impact report, this document should be provided to project steering committees on a regular basis and submitted to DTF at key approval milestones.

The project closure report will apply upon completion of the project. The report will be a core document required for Gate 5 Gateway reviews.

* + 1. Introduction
       1. The delivery stage

After making a judgement about the relative policy and strategic merit of an investment, investors and decision‑makers need a robust understanding of the solution – that it is the best value‑for‑money option, and that it can be delivered as planned. Gaining an understanding of a project’s deliverability involves planning in detail its costs, key sources of uncertainty, timelines and the critical dependencies associated with it.

Appropriate shaping of solutions at an early stage will help avoid investments that unnecessarily replicate infrastructure or miss opportunities to align solutions with broader policies and strategies, or fail to take advantage of new thinking and technologies. It will allow decision-makers to consider solutions integrated or coordinated with other projects, for example, integrating a new railway station and additional line with a proposed grade separation.

Stage 3: Delivery can only occur after the planning and appropriate authority/funding approval is in place. Delivery has three general phases:

Initiation;

Contract and delivery (construction) administration; and

Commissioning and handover.

During this stage it is essential to monitor and control the project by managing:

* + - time, cost and quality aspects;
    - risks, and any issues that emerge (including testing the ongoing investment logic);
    - change that results from the realisation of a risk or treatment of an issue;
    - relationships and communication with suppliers for the procurement;
    - testing of sub‑components and commissioning activities;
    - requirements for operational readiness planning;
    - transition‑in and mobilisation preparation;
    - training of personnel who will be using the new capability, facility or system;
    - effective handover to the ‘user’;
    - required documentation, warranties, operation and maintenance manuals and ‘as‑built’ drawings; and
    - communications and relationships with stakeholders, particularly clients and end users.
      1. Tools and references
         1. Asset Management Accountability Framework

The Asset Management Accountability Framework (AMAF), mandated by the Standing Directions of the Minister of Finance 2016, defines requirements for the acquisition of assets and their ongoing management. The AMAF should be applied to new asset investments to ensure the assets are integrated into the organisation’s asset management system and are appropriately managed across their lifecycle to meet service delivery objectives.

* + - * 1. Construction policy

DTF is responsible for building policy and legislation in Victoria. This includes managing the regulatory framework and public construction procurement, tendering and contracting procedures and practices. Public construction includes the planning, building and maintenance of constructed assets such as schools, hospitals, public housing, police stations, courthouses, water, road, rail and transport infrastructure and much more.

The Minister for Finance is responsible for policy that prescribes procurement, tendering and contracting procedures and practices for public construction in Victoria. DTF works closely with Victorian government agencies that deliver public construction projects. A variety of information and resources applicable to public construction in Victoria, including Ministerial Directions under the *Project Development and Construction Management Act 1994*, are available on the DTF website at [www.dtf.vic.gov.au/infrastructure-investment/public-construction-policy-and-resources](https://www.dtf.vic.gov.au/infrastructure-investment/public-construction-policy-and-resources)

* + - * 1. Investment Management Standard

Often government agencies make the mistake of only using project reporting to track the status of their project, not their investment. Project reporting often only covers the project procurement and delivery stage, mainly tracking the project against time and cost expectations. This has significant limitations. Even if a project is successfully kept to time and budget constraints, the original drivers for the investment may no longer be valid.

DTF’s Investment Management Standard (IMS) provides tools to help investors define and validate requirements across the investment lifecycle – including the problem, the benefits of addressing the problem, the response option, and the project solution.

DTF encourages all departments and agencies to continue to use IMS tools during the delivery stage. The IMS tools (investment logic map, investment concept brief, benefit management plan and response options analysis report) establish the context and value the investment is likely to provide early in the project’s lifecycle. This gives a baseline to help track the status of the investment.

Investment reviews are reviews performed by or for the investment governance body (project steering committee or project board) to determine the continued relevance of the investment. Investment reviews are usually performed at predetermined intervals (generally six-monthly) during the investment lifecycle. The reviews can assist the investor and the project board by testing that the underlying investment logic remains sound. (There is more information at [www.dtf.vic.gov.au/infrastructure-investment/investment-management-standard](https://www.dtf.vic.gov.au/infrastructure-investment/investment-management-standard)) The investor can use this information, with project performance data against cost and schedule expectations, to make informed decisions about the future of the investment.

Based on the current relevance of the investment logic and the project status, the project steering committee may decide to continue, discontinue or vary the terms for delivering the investment (subject to Government approvals where appropriate). The project steering committee endorses the reviewed investment logic map and benefit management plan, incorporating ongoing investment decisions, as valid at that decision point.

* + - * 1. Construction Supplier Register

The Construction Supplier Register[[2]](#footnote-2) is a pre‑qualification scheme for building and construction industry consultants and contractors. It is available by arrangement with DTF to statutory authorities, school councils and hospitals, as well as to other approved Government and non‑Government organisations.

The Register and its associated pre‑qualification scheme support the implementation of the Ministerial Directions for Public Construction Procurement in Victoria and benefits government and suppliers alike through the consistent application of suitable pre‑qualification criteria and reduced tendering costs.

* + - * 1. Value Creation and Capture Framework

The Value Creation and Capture (VCC) Framework requires agencies to consider value creation and capture opportunities for any relevant asset investments proposals submitted for budget funding.

* + - **Value creation** refers to creating and delivering additional value and benefits for Victorians than might normally have been achieved from an investment. For example, when building infrastructure or developing precincts, government can enable economic opportunities, deliver green space, community services, housing and education facilities and create more value for the community than would otherwise be the case.
    - **Value capture** refers to government capturing a portion of the incremental economic value created by its investments, activities and policies. These actions may generate alternative revenue streams, assets or other financial value that Government can tap into to assist funding existing or future investments.

Investments required to comply with the VCC Framework include:

* + - precinct projects;
    - development of public land;
    - non‑ICT capital investments meeting HVHR criteria; and/or
    - any other capital investment considered by Government as having potential significant value creation and/or capture opportunity.[[3]](#footnote-3)

Further information on the VCC Framework is available on the Department of Premier and Cabinet’s website at [www.vic.gov.au/value-creation-and-capture-framework](https://www.vic.gov.au/value-creation-and-capture-framework).

* + - * 1. Implementation process

Approved and agreed VCC plans and objectives for projects and precincts should be considered throughout project initiation, delivery and handover as follows:

#### Initiation

VCC elements should be included as appropriate in project initiation activities to ensure they are appropriately resourced and scheduled.

#### Managing through handover

VCC components should be considered through:

* + - **Scope management:** incorporate the VCC component(s) into the scope statement to ensure the project scope can be appropriately managed throughout delivery.
    - **Schedule management:** consider when it would be appropriate to enable/start the VCC components and ensure any requirements are incorporated into the project schedule.
    - **Quality management:** define the quality criteria, processes and standards that will be used throughout the project.
    - **Cost management:** note that any changes to budget or access to contingency payments for VCC elements are required to go through the same approval process as the broader project.
    - **Compliance management:** identify and adhere to compliance requirements, including agency and statutory requirements.
    - **Reporting:** project reporting to the steering committee and to Government as required should include progress on VCC Plan delivery. Depending on the project, this can include delivery progress, realisation of outcomes and benefits, variations to proposed activities, and new VCC proposals that may arise during project delivery.

#### Related processes

It is important to communicate any VCC objectives, delivery activities and progress with stakeholders as appropriate, and ensure they are addressed in risk management plans.

#### Project assurance

VCC components of the broader project are to be incorporated at Gate 5 (Readiness for Service). Importantly, lessons for future projects should be identified and recorded to ensure that future delivery of VCC is accomplished as efficiently and effectively as possible.

* + - * 1. *Climate Change Act 2017* and related climate change initiatives

The Victorian Government’s new *Climate Change Act 2017* commenced operation on 1 November 2017. The Act sets out a clear policy framework and a pathway to 2050 that is consistent with the Paris Agreement to keep global temperature rise well below 2 degrees Celsius above pre‑industrial levels. The Act sits alongside other key Victorian Government energy and climate change initiatives, including Victoria’s Climate Change Framework, Victoria’s Climate Change Adaptation Plan 2017‑2020 and Victoria’s Renewable Energy Action Plan.

There are two primary aspects of these climate change initiatives that agencies should consider when developing and delivering infrastructure investments:

* + - **greenhouse gas emission reduction:** the *Climate Change Act 2017* sets a target of net zero greenhouse gas emissions by 2050. When delivering new, or renewing/replacing existing, infrastructure, Government should think about actions it can take to reduce Victoria’s emissions footprint; and
    - **climate change adaptation:** climate change is a key **uncertainty** that can impact our investments. Victoria is already experiencing the impacts of climate change, with increases to average temperature and decreases to average rainfall impacting all parts of the State. When developing and delivering investment proposals, agencies should consider whether service delivery functions are vulnerable to changing climatic conditions. Practitioners should also contemplate strategies or actions that could be taken to prepare for, and adapt to, these changes, and increase the resilience of our service delivery capability and supporting assets.

Further information on the Victorian Government’s climate change legislation, policies and initiatives is available on the Department of Environment, Land, Water and Planning website at [www.climatechange.vic.gov.au](https://www.climatechange.vic.gov.au/).

* + 1. Delivery
       1. Overview

Stage 3: Delivery takes the project from the end of the tender stage (when the scope of the project has been defined, a contract has been signed and the costs to deliver the project are known) to project handover (when the asset or service is available for end users).

Fundamentally, the delivery stage translates an initiative (defined in procurement documents such as the tender and specifications) into a set of measurable outcomes to be reached in the construction (or development) and commissioning stages. This is usually realised through a contract with a third party.

Key activities in this stage include:

* + - the initiation phase for construction or development;
    - contract administration, including progress checkpoints, inspections and pre-occupancy review; and
    - commissioning and handover to prepare the operational environment for successful integration of the investment, including but not limited to:
      * training;
      * documentation (operation and maintenance);
      * operational readiness plans and preparation;
      * transition‑in and mobilisation planning;
      * support infrastructure, including ICT improvement or development (as necessary);
      * inventory requirements; and
      * data records and information management system requirements.

Figure 2: Delivery – key elements

Readiness for service

Initiation

Contract administration

Commissioning and handover

This section discusses each of these activities, with a checklist designed to assist investors.

Hints

Involve end users, the service delivery agency and operators (or those maintaining the asset) early in the delivery stage.

Review risks regularly during this stage and start identifying risks for the next stage of the project.

Ensure the project schedule has a contingency should there be a delay in the handover date.

* + - * 1. HVHR projects

High value or high risk (HVHR) asset investments are subject to reviews under the HVHR Project Assurance Framework, as well as compulsory Gateway reviews at a number of stages in a project’s lifecycle. These are documented in a project’s HVHR Project Assurance Plan. The HVHR Framework aims to increase the likelihood that these projects will achieve their stated benefits and be delivered successfully, on time and on budget.

A project is classified as HVHR if it:

* + - is considered high risk using DTF’s risk assessment tool, the Project Profile Model;
    - is considered medium risk and has a total estimated investment (TEI) of between   
      $100 million and $250 million;
    - has a TEI over $250 million; or
    - is identified by Government as warranting the rigour applied to HVHR investments.

At Stage 3: Delivery, HVHR projects are subject to closer ongoing DTF oversight of:

* + - time, scope and budget reporting and analysis;
    - governance effectiveness;
    - risk assessments and mitigation plans; and
    - any recommended interventions or remedial actions.

During Stage 3: Delivery, a Gate 5 review should be conducted in the line with the project’s HVHR Project Assurance Plan. The Gate 5 review occurs once the asset is ready for delivery. This review tests whether the project is ready to provide the required service by confirming the current phase of the contract is complete and documented, the contract management arrangements are in place and current, organisational transition processes are in train and the business case remains valid.

Figure 3 illustrates the steps that occur in the Delivery stage for HVHR projects.

Figure 3: Responsibilities under HVHR Framework at Stage 3: Delivery

Gate 5 review

Departments

DTF

Government

Project reporting:  
time, budget,   
scope, risks

Analyse project   
performance and advise Government; send   
feedback to department

Delivery

Consider project   
status and any   
proposed interventions; approve action(s)

During Stage 3: Delivery, DTF analysts will:

* + - assist project teams to report and monitor delivery progress;
    - provide regular advice to government project progress, budget status, risks and any recommended interventions; and
    - participate in project governance bodies, where feasible and appropriate.

While DTF has an oversight role, this does not replace departmental accountability for delivering the investment and its outcomes.

More information about the HVHR Framework can be found on the DTF website.

* + - * 1. Requirements for HVHR projects

Variations to the scope, time and cost of a project require authorisation at different levels depending on the scale of the variations. Some minor variations can be authorised within project teams, or by the SRO. More significant variations may require ministerial approval, Treasurer’s approval or the approval of Government.

In 2019 the following new HVHR requirements were introduced:

* + - change control register – the DTF template sets out the minimum expectation for tracking and monitoring variations. These should include variations to the existing contract(s) (e.g. additional works that draw down from unspent budget, risk or contingency allocations). Authorisation levels should be clearly outlined for each individual or group (e.g. project manager, steering committee, SRO) and should align with the project governance plan. The register should be updated whenever changes occur and should be tabled at the steering committee. The register must be submitted to DTF in the case of major variations requiring Treasurer or Government approval.
    - project closure report – the project closure report sets out the minimum expectation for closing the project and transitioning the asset into service delivery. Separate guidance is available within the report template. The report must be submitted to DTF prior to handover, and will be a core document examined as part of the Gate 5 Gateway review.
      * 1. ICT projects

For ICT projects, it is expected that a staged approach to project delivery will be taken throughout the lifecycle of investments, as outlined in the **Developing ICT Investments** and the **Procure ICT Projects** technical guides. Under a staged approach, the business case should be revisited and updated at the end of each stage of the lifecycle providing:

* + - details of actual outcomes and spend for the stage just completed;
    - refined detail at a high level of accuracy for the next stage of the project. This should include refined project cost estimates, including contingency, and a detailed project plan; and
    - refined detail for each future project stage based on new information and understanding gained through the previous stage.

This updated full business case will form the basis for consideration and approval to proceed to the next stage.

There are several factors for departments to consider during delivery of ICT projects, particularly:

* + - active management of vendor contracts to ensure delivery to contractual agreements;
    - maintaining a benefit management plan to track the realisation of benefits, as well as benefits realisation costs;
    - actively managing the scope of the project, to ensure what is delivered reflects the endorsed full business case and delivers the agreed project benefits;
    - undertake stakeholder engagement and business readiness activities in order to achieve stakeholder acceptance and utilisation of the new solution;
    - ongoing risk management and monitoring involving DTF; and
    - ensure formal governance structures are in place to provide appropriate forums for ongoing project control, monitoring and effective decision-making.
      1. Initiation

In initiating the delivery stage, investors in consultation with the project management team and project board need to reconsider a number of activities that they planned and considered in the earlier stage of the project lifecycle. These include:

* + - confirming project governance arrangements (refer to the **Project Governance** technical guide);
    - collating and reviewing all critical project documentation (including the contract, the project plan, the risk register and, if relevant, asset lifecycle management planning materials);
    - setting up and implementing processes for project administration, including monitoring and reporting;
    - making sure there are sufficient resources (human, financial and systems) to put the contract into effect and manage it efficiently;
    - identifying program activities (e.g. operational readiness and transition‑in processes) to administer the contract through a planned transition to service delivery; and
    - setting up key related processes and ensuring they continue to develop. These include managing:
      * organisational change;
      * stakeholders;
      * risks and issues;
      * benefits; and
      * knowledge.

Knowledge management in this context includes recording, retention, dissemination and application of project and contract information to ensure improvement and information continuity throughout the investment lifecycle. See section 4.6 for more information.

Figure 4 shows the main elements of the initiation stage. These elements link the earlier project lifecycle activities and the delivery stage.

Figure 4: Key elements of the initiation phase

Review key project documentation

Set up contract administration processes

Confirm project governance

Provide sufficient resources

Plan contract administration

Inflation stage

Project initiation is very much about establishing healthy relationships both internally and externally, particularly with the contractors who are delivering the asset or service. It is important to clearly define roles and responsibilities and discuss these with all parties. They should be very clear, particularly where there are personnel changes during (or moving into) the delivery stage.

Effective delivery also requires key project staff to have a comprehensive understanding of:

* + - the project requirements;
    - the desired project outcomes;
    - how the project contributes to client service delivery;
    - key sources of uncertainty (risks) and lead indicators (issues) that these risks might emerge; and
    - what needs to be done to make the transition to service smooth and planned.

Developing a comprehensive understanding of the project requirements is essential. The project team is expected to develop these in a consistent way throughout the project documentation, planning and delivery stages.

* + - * 1. Review documentation

To deliver the solution effectively, the project team is expected to be familiar with, and review, the project documentation. They are also expected to be proficient with managing the delivery of the project in accordance with that documentation.

Typically, the documentation follows project management principles. This includes important regulatory requirements (compliance and approvals) for delivery.

Depending on the nature or size of the project, the documents may include:

* + - the updated project business case, translated into an investment business plan;
    - the Gate 4 (Tender decision) report, if undertaken;
    - key contract documents;
    - design reports and supporting investigation reports;
    - compliance approvals and conditions affecting the project, and information on outstanding approvals;
    - the updated project management plan (or stage plan or equivalent);
    - the updated risk management plan (including a risk register), with particular emphasis on risks to the successful management of (and within) the contract, delivery, commissioning, handover, operation and potential defects maintenance;
    - the issues log and change control process;
    - project delivery plans;
    - stakeholder management plans; and
    - organisational policies regarding contract management.

The attainment of compliance approvals can be a significant task involving consideration of a wide range of legislation and policies. Appendix A provides a case study on the Channel Deepening project. Appendix A1 outlines the range of relevant legislation and policy that was considered and Appendix A2 provides a diagram of the iterative process of project development in compliance with the environmental evaluation framework.

* + - * 1. Confirm governance

Effective governance arrangements are central to delivery. However, governance roles vary according to the type of contract, agency requirements and the characteristics of the project. For small contracts, one person may act in a number of roles. The **Project Governance** technical guide provides more detail on these issues.

The contract documents should clearly state the accountabilities, roles and responsibilities of each party to the contract. It is critical to avoid duplication or gaps in responsibilities. Table 1 summarises typical roles and responsibilities.

**Table 1: Typical roles and responsibilities for contract management**

| **Title** | **Typical role and responsibility** |
| --- | --- |
| Owner, principal or client | The organisation or person identified in the contract as the contracting entity. The owner is usually responsible for paying for work undertaken. |
| Project board, project steering committee, governance committee or project control group | A group consisting of key agency and government stakeholders that is responsible for guiding the project. It may have the following functions:   * approving changes to the project and its supporting documentation; * monitoring and reviewing the project; * resolving significant project conflicts and issues;[[4]](#footnote-4) and * formally accepting project deliverables. |
| Project director or project sponsor, senior responsible owner | The person representing the owner, who is ultimately accountable and responsible for the project. |
| Project manager | A person responsible for delivering the defined project. |
| Project team | The supporting team to the project manager. |
| Superintendent (other terms may be used under different contracts) | Person nominated by the principal to administer the contract. Obligations may include:   * verifying that the work complies with the contract requirements; * certifying that the work is satisfactorily completed and assessing and valuing progress and final claims; * instructing the contractor (through superintendent’s instructions) where the contractor is seeking approval or clarification of a contract requirement so they can proceed; * ordering and valuing variations to the work and (on approval of the Project Board or other relevant group) approving variations within their designated authority; and * keeping the principal informed of progress and contractor performance. |
| Superintendent’s representative | Represents the superintendent, with delegated authority under the contract. |
| Contractor | An organisation or person with an obligation to perform certain works or services as described in the contract documents. |
| Contractor’s representative | Person nominated by the contractor to supervise and manage the work under the contract. |

* + - * 1. Provide sufficient resources

Effective delivery can only be achieved if Government agencies provide adequate resources for each project delivery phase, including:

* + - Construction and commissioning phase:
      * financial resources to meet contractual requirements and to provide adequate contract administration;
      * human resources with the competencies, skills and experience to manage the delivery;
      * physical resources (e.g. adequate accommodation and services); and
      * system support (e.g. information, records systems and knowledge management protocols).
    - Operation and maintenance phase:
      * adjustment to financial resources aligning needs to whole of life service demands;
      * adjustment to human resources with competencies, skills and experience for the ongoing operation and maintenance of the investment;
      * adjustment to, or provision of, alteration to support infrastructure; and
      * establishment of necessary supply chains to support the investment.
        1. Contract administration processes

Effective delivery requires both the principal and the contractor to set up processes to manage project cost, time, quality and contract compliance.

Section 3.1 has more information on contract administration. For more on managing support processes, refer to section 3.

* + - * 1. Plan contract implementation

The project team should review the contractor’s preliminary and detailed delivery program, regarding:

* + - its feasibility;
    - potential risks and issues and how these risks and issues are linked;
    - target dates for principal and superintendent contractual commitments (e.g. provision of information, contractor site access, compliance with permits, approvals, etc.) and development of plans to achieve these commitments; and
    - identifying and programming user and operator (or those maintaining the asset) involvement in the project.
      * 1. Project initiation checklist

Initiation checklist

* Is an effective project governance arrangement in place and has this been formally documented and communicated to relevant stakeholders?
* Has the project team reviewed relevant documentation? Are they familiar with delivery and readiness for service requirements?
* Is there a benefit management plan and a schedule for investment reviews?
* Are there sufficient resources (human, financial and systems) and skills available to adequately manage the contract?
* Have contract administration processes and procedures been set up and documented?
* Has the project team reviewed the contractor’s delivery program? Have the full implications of this program been assessed?

* + 1. Managing through to handover
       1. Contract administration

Investors need to observe fundamental contract administration principles for effective delivery. This overview shows the importance of basic contract administration practices for any project.

Good contract administration helps deliver a project that meets the scope, quality and cost specified, is on time, and meets all compliance requirements. Successful contract administration relies on both clients and contractors being open and trusting in their dealings with each other and resolving all issues as they occur.

Effective contract administration is vital. It means:

* + - the agency obtains value for money from the contract;
    - the final product or service meets the specified scope and quality specifications;
    - the project is delivered within the target timeframe, quality criteria and costs; and
    - there has been effective project delivery.

Figure 5 outlines where contract administration fits in this stage of the project lifecycle.

Figure 5: Contract administration stage

Readiness for service

Initiation

Contract administration

Commissioning and handover

In general, Government agencies, particularly those with significant asset programs, already have well-established contract administration practices and guidance material.

In addition to using agency processes and guidance material, they may also use material prepared by the Building Commission and national peak bodies such as Standards Australia or the Australian Procurement and Construction Council.

* + - 1. Scope, time, cost and quality management

Scope, time, cost and quality constraints and management should be incorporated into all project management lifecycle stages in the following ways:

* + - **Scope management:** develop a written project scope statement to define the project. This statement is used as the foundation for managing scope and timing. It may further be defined by using a work breakdown structure.
    - **Time management:** establish a project schedule defining the high‑level activities that must be carried out at certain points in the project to deliver the product described in the scope statement. Flow charts and a critical path analysis might be useful tools for this.
    - **Quality management:** define the quality criteria, processes and standards that will be used throughout the project.
    - **Cost management:** establish a budget breakdown for the project. Useful tools for this might include earned value management and ‘cost to complete’ analysis.
    - **Compliance management:** identify and adhere to compliance requirements. These may include agency and statutory requirements.

Figure 6 summarises the main elements of the contract administration stage.

Figure 6: Key elements of the contract administration stage

Scope management

Time management

Quality management

Cost management

Compliance management

Contract administration

**Note:** the contract documents should specify provisions for variations to the contract. Some variations affect the cost, quality or time allowed. The project manager or superintendent should analyse and review variations against the contract provisions. Approval procedures should recognise who is delegated to authorise variations before any variation is implemented.

* + - * 1. Scope management

The high‑level project scope boundaries are generally set in the investment logic map, translated into a project scope statement in the full business case, and are likely to have been further refined with more detail during each stage. Contract documentation should fully define the scope authorised for the project, except to the extent that scope relates to in‑house activities.

By the time the project reaches the delivery stage, there should be only very limited scope changes, provided those involved have put the appropriate attention into planning and design from the start.

When government agrees to a proposal, it expects the approved scope to be consistent with the scope to be delivered. Significant scope changes that affect the time, costs and quality outcomes during the construction stages generally require project owner acceptance before they are implemented. Note: the project board may have a defined level of delegation to approve scope changes and some scope changes may require government or ministerial approval, particularly for HVHR investments.

The project owner’s acceptance is needed, since significant changes at this point in the project usually add a substantial cost and potential time over‑run. Scope changes would then be negotiated with the contractor.

Refer to Appendix B for a change control register template.

* + - * 1. Time management

Time management is achieved by:

* + - specifying how long the project will take in the contract documents;
    - agency review of the delivery program that the contractor submitted with the tender, and their negotiation about it (where necessary) and acceptance of it as reasonable;
    - liquidated damages being included in the contract in the event of late completion by the contractor;
    - the contractor submitting a detailed program for review shortly after award of the contract, and the agency accepting this as being reasonable;
    - the project manager or superintendent actively monitoring progress against the agreed project timelines, milestones and the critical path to drive accountability; and
    - regular communication between the project manager and contractors on performance against agreed project milestones/timelines.
      * 1. Quality management

The contract specifications clearly and objectively show the required quality of project outputs. These specifications should refer to industry‑accepted standards (e.g. Standards Australia). For some contracts, the contractor would be required to have quality accreditation. It is equally important that appropriate quality assurance systems are in place for parties both external (designers, construction managers, etc.) and internal (project management team) to government.

Quality is managed through:

* + - the contractor being required to undertake quality control activities to ensure compliance with the contract specifications and provide the results to the project manager or superintendent;
    - inspection and monitoring (by the project manager or superintendent) of testing of key components;
    - active monitoring of key quality and performance criteria (such as tests and evaluation) to hold contractors accountable before a progress payment, milestone payment or Certificate of Practical Completion is issued under the contract; and
    - the contract defects liability or warranty period, where any defects identified after practical completion are remedied before final construction payment.
      * 1. Cost management

The parties should agree to contract payments and the basis of all payments, including progress and final payment in the contract documents.

Progress payments are usually based on milestone payment points submitted by the contractor. The project manager or superintendent assesses them for acceptance or adjustment before certification is issued approving payment. The project manager or superintendent should carefully review all invoices to make sure that the payment claimed is in accordance with the contract requirements and is, in fact, payable.

A properly developed project budget includes a risk‑adjusted estimate with provision for contingency for unforeseen events. This sum should not be made known to the contractor. The contingency amount should not be relied upon to address failure to actively cost manage the project. Access to contingency must be outside the project team delegation either through internal, or in specific instances Treasurer’s, approval.

The project should be actively cost managed within the risk-adjusted estimate. Contractors must be held to account for the agreed cost. If any increase in cost is expected to exceed the approved expenditure, the investor should seek approval for additional funds. This may involve a request for withheld contingency funds or, in extreme cases, an increase to the project budget approved by the Government. The former case requires a bid to the appropriate authority against agreed provisioning, while the latter case requires a revised submission justifying why Government should considered an increase. Approval is not automatic, and departments and agencies should aim to manage the project within the agreed parameters, unless the project owner initiates changes to project parameters. Use of an earned value management or ‘cost to complete’ analysis to monitor project progress is recommended.

**Note:** for HVHR projects material, contract variations require the Treasurer’s approval.

* + - * 1. Compliance management

Compliance management involves the project manager or their superintendent monitoring the contractor’s compliance with:

* + - the quality management system;
    - workplace, health and safety;
    - environmental conditions;
    - development applications or permits issued by either the Commonwealth, State or local governments; and
    - the currency and adequacy of insurance policies.

The project manager or superintendent should ensure that the department or agency also meets its compliance obligations. These include:

* + - legislative and policy requirements;
    - financial management directions; and
    - intergovernmental agreements.
      * 1. Contract administration checklist

Contract administration checklist

* Have documented processes been established and implemented to manage project scope, time, quality and cost?
* Have documented processes been established and implemented to monitor the contractor’s compliance with the contract?
* Have documented processes been established to ensure government (departmental or agency) compliance with the contract?
  + - 1. Commissioning and handover

The commissioning of a project, and subsequent handover to the controlling entity, marks the end of the delivery stage (and the start of the service or asset’s operational stage). For complex projects, the commissioning and handover may be a staged process.

The commissioning process ensures that:

* + - the operator and controlling entity are assured that the project meets agreed specifications; and
    - the entity or operator has sufficient knowledge to manage the infrastructure or process effectively and efficiently to meet service delivery outcomes.

The handover process ensures that:

* + - the operator and those responsible for maintenance are prepared to accept the investment; and
    - the controlling entity has been actively involved in all aspects of the operational readiness studies.

Figure 7 outlines where commissioning and handover fits in the project lifecycle.

Figure 7: Commissioning and handover stage

Readiness for service

Initiation

Contract administration

Commissioning and handover

* + - * 1. Commissioning

Commissioning is usually undertaken before handover to ensure everything is ready for occupation or use. Any works outstanding under the contract should be identified and documented so there is a clear understanding of any work still to be completed as part of the project.

There should be a clearly documented history that outlines the necessary commissioning tests, acceptance criteria, tolerance levels, reporting requirements and the means for measuring the criteria. The criteria and measurements should be as quantitative as possible and relate to agreed standards (e.g. Australian Standards).

During the defects liability period of the contract (if there is such a period), the contractor is responsible for completing omissions and defects outstanding at practical completion and for rectifying additional identified defects.

Commissioning usually starts after the project manager or superintendent accepts that contract quality and performance criteria have been achieved. The commissioning team should have sufficient skills and experience in the type of infrastructure, or in complex processes, to assess its acceptability.

A commissioning plan should be developed by the contractor and when acceptable agreed to by the project manager or superintendent. A commission test log, checklist or report provides written evidence of tests and results. It identifies:

* + - areas of compliance and non‑compliance;
    - what corrective action is required in the event of non‑compliance;
    - any retesting requirements; and
    - a documented plan for retesting or corrective action.

Involving operators (and those responsible for asset maintenance) in the commissioning and handover process is a key element in the transition process.

* + - * 1. Handover

Once the project has reached practical completion, handover from the contractor to the service delivery agency and its users can take place. From this time on, the service provider agency takes responsibility for the asset or process, although a period of time for the contractor to rectify defects is normally allowed before finalising the contract.

The handover process may include:

* + - provision of ‘as constructed’ (or ‘as built’) drawings (hard copy and digital) in an agreed format to the controlling entity and operators (or those responsible for maintenance);
    - training of the controlling entity and operators (or those responsible for maintenance), particularly regarding specialist equipment or procedures. Most of this training is likely to need completing before asset handover;
    - provision of operation and maintenance manuals (hard copy and digital) in an agreed format to the controlling entity and operators (or those responsible for maintenance). These should be provided to the project manager or their superintendent well before handover. The manuals should be clearly specified in the contract documents;
    - provision of an asset management plan, consistent with the requirements of the Asset Management Accountability Framework and good practice asset management;
    - compilation of an asset register (database) formatted for the controlling entities’ asset management information system, including defined (or stated) asset attributes;
    - identification of any asset element subject to premature obsolescence (e.g. ICT elements), complete with obsolescence management strategies;
    - establishment of, and adjustment to, inventories’ support requirements (such as spares pool for routine maintenance and failure response);
    - establishment of investment supply chains, necessary for the ongoing sustainment of the investment;
    - unit rates or costs per functional unit for various components – these should be collated along with reasons for rate variation, and this should feed back into the department or agency’s estimating database;
    - provision of copies of all approvals, development conditions and permits associated with the development;
    - a benefit management plan and reporting criteria;
    - a commissioning report and supporting information (e.g. test results and certificates);
    - provision of a schedule of warranties (from the contractor(s), sub‑contractor(s) and supplier(s)), and confirmation that items identified during the defects and dilapidation surveys are covered under the associated warranty (or warranties);
    - establishment and implementation of a warranty management plan (a failure reporting, analysis and corrective action system is an example);
    - a photographic dilapidation survey (particularly useful in construction projects) as evidence of the actual condition at the time of practical completion and associated handover. This is useful in identifying any further defects or damage that may be caused by the new operator, or contractors themselves, during the defects liability period (this protects against further costs or variations);
    - in certain circumstances, provision of a business plan for the operation of the asset;
    - performance reports on contractors, sub‑contractors and consultants, completed and stored in the department or agency’s database for future reference;
    - a management review – in certain circumstances, an audit of the project or contract management process may be warranted. The opportunity may be lost once the project team has disbanded, and it will be difficult to capture lessons learned;
    - indexing and archiving of contract documentation at the appropriate time, with the indexing substantially completed soon after practical completion; and
    - planning for the defects liability period, when rectification and make‑good arrangements take place.

The following information should be supplied to the asset owner/operator so the Government agency can update its asset register:

* + - asset attributes and costs, disaggregated in a logical and acceptable way that is consistent with the agency’s asset register hierarchy and the standards to be met;
    - asset valuation, including ‘useful life’ and annual depreciation; and
    - post‑occupancy evaluation and evaluation of consultants and contractors.

The project manager is accountable for this being achieved and it being consistent with agency knowledge management requirements.

* + - * 1. Documentation

At this stage, the business case should be updated, particularly regarding:

* + - actual capital costs;
    - risk management – did the predicted risk events occur and what were the final consequences? What were the costs associated with contingent responses? Were there any useful lessons learned?;
    - other delivery issues that affected the project, particularly those not anticipated (unforeseen risks) in the original business case;
    - the areas of the business case that continue to be valid (provide a brief commentary); and
    - whether the benefits proposed at the start of the project are still valid.

Lessons learned from project delivery should be documented using a project closure report. Refer to Appendix C for a template project closure report. The purpose of this report is to:

* + - provide a recommendation as to whether or not the project should be closed;
    - summarise key project factors and recommendations, post‑delivery; and
    - outline any unresolved project factors and how they could be managed.

This report is a communications tool and should be used to seek authorisation from the project steering committee (or control group) to close the project.

An important project completion task is ensuring knowledge is not lost in transition.

A suitably qualified and experienced person, independent of the project, should check and validate that the project manager has completed all necessary actions to ensure knowledge management requirements have been met.

* + - * 1. Commissioning and handover checklist

Checklist for commissioning and handover

* Have acceptance criteria been explicitly documented in the contract documents?
* Does the commissioning team have sufficient skills and experience?
* Is the contractor’s commissioning plan acceptable?
* Are the future operators (or those responsible for maintaining the asset) involved in the commissioning and handover process?
* Do test logs, checklists or reports provide adequate evidence of acceptability or non‑acceptance?
* Have the following been undertaken as part of the handover process?

– provision of ‘as constructed’ (‘as built’) drawings;

– training of controlling entity and operators (and those responsible for maintaining the asset);

– provision of operation and maintenance manuals;

– sufficient information to establish or update the asset register;

– provision of the asset management plan;

– preparation of performance reports and their entry into a database;

– management review (where appropriate);

– indexing and archiving of contract documentation;

– provision of a schedule of warranties, and confirmation that items identified during the defects or dilapidation surveys are covered under the associated warranty (or warranties); and

– provision of all certificates, permits, approvals and conditional development documentation.

* Has the investment business plan (extract from full business case) been reviewed or updated?
* Have project learnings been captured in a project closure report?
* Are you confident that the project deliverable is ready for service? What is the basis for this confidence?
* Has an independent person, suitably qualified and experienced, checked and validated that the project manager has completed all necessary actions to ensure knowledge management requirements have been met?
  + 1. Related processes

Hints

Start with the end in mind: what will be the major issues when you are about to hand over the project?

The project will be judged on time, cost and quality outcomes: what can be done to make sure these outcomes are met?

Relationships are important in delivering major projects.

Get your stakeholders involved early. It may take time, but it will pay off in the end.

Spend 5 per cent more time planning.

This guideline refers to activities or ‘key related processes’. These are important for effective delivery, but are undertaken in other lifecycle stages required to facilitate the contract administration process. (Figure 8 outlines these.)

These activities should enhance processes already established earlier in the project lifecycle, including stakeholder, change, risk, issues, and knowledge management.

Having sound processes in place for these activities helps develop an organisational culture that is prepared for the project and its ongoing requirements. This preparation:

* + - means that the organisation is effective in identifying risks and recognising and responding to issues so that they can be managed well before the risk emerges as   
      a reality, and as a substantial problem;
    - facilitates communication with all stakeholders;
    - minimises project risk at the strategic and operational levels, which helps make contract management and the handover to operators (or those responsible maintaining the asset) more effective and efficient; and
    - helps with knowledge sharing and learning from experiences, leading to continuous improvement in the project lifecycle processes.

Figure 8: Key related processes

Stakeholder management

Change management

Initiation

Contract administration

Knowledge management

Key related processes

Readiness   
for service

Initiation

Uncertainty management

Contract administration

Commissioning and handover

* + - 1. Stakeholder management

A stakeholder may be defined as anyone who directly or indirectly receives a benefit or sustains a cost resulting from the delivery of a project.

Primary stakeholders are those closely linked to a particular aspect or stage of the project or asset lifecycle. During this stage, the primary stakeholders may include the contracting parties, the funding agency, future operators, those responsible for maintenance and users, the community, regulators and those who will be affected by the project – neighbours or consumers of the benefits of the project, for example.

Investors identify and assess key stakeholders and their importance, involvement or influence in Stage 1: Business Case.

You should review stakeholder requirements at each stage of a project, as they are likely to change as the project progresses. For larger projects, a stakeholder management plan should be developed to manage stakeholder needs. Departments or agencies that generate many similar projects should have generic checklists of stakeholders and their needs.

Communication is an essential part of managing and developing stakeholder relationships, and managing the project. You should document communication strategies in the stakeholder management plan or communications plan.

Effective communication between the contracting parties is also essential for effective contract management, and to minimise the risk of contract disputes. In some instances, the project team may include a person whose role is to liaise with certain primary stakeholders (e.g. facility operators, those responsible for maintenance or users). This can help make project delivery successful.

* + - 1. Change management

A project can be seen as delivering a change – whether a new service, a new asset or a new way of doing business. Organisational change management involves identifying the impacts of a project on an organisation, and developing and managing activities leading to a smooth delivery and acceptance of project outputs.

Change management strategies and tools should have been developed in the business case stage of the investment lifecycle.

At handover, the organisation accountable for service delivery must be ready to provide the governance and oversight to operate the infrastructure effectively and efficiently in an appropriate operational environment. For this to happen, appropriate change management activities and processes must be implemented through the project lifecycle stages leading up to readiness for service. Change management strategies for this stage should be developed in conjunction with the organisation and management responsible for service delivery.

Change management activities relevant to the delivery stage include:

* + - reviewing, updating or developing policies, processes or procedures for long‑term project success;
    - developing a training plan to ensure operators (and those responsible for maintenance) have the necessary skills to manage and operate the infrastructure or process;
    - job redesign;
    - allocated responsibilities for operation and maintenance – if these services are to be provided externally or as shared services, then contracts should be arranged;
    - changes in organisational culture required to manage the infrastructure or process; and
    - confirmation with the organisation responsible for service delivery that:
      * costs and resources required to sustainably manage the infrastructure or process have been adequately budgeted for;
      * resources (e.g. financial, staff, systems, etc.) are adequate for sustained service delivery;
      * systems are in place to effectively manage the infrastructure or process (e.g. there is an appropriate maintenance management system);
      * processes are in place to manage outstanding issues (see section 4.5);
      * provide sufficient resources and residual risk (see section 3.2.4);
      * processes exist to ensure that documentation and information provided at handover will be properly stored or archived and accessible to operators (and those responsible for maintenance);
      * systems are in place to monitor service delivery and that suitable outputs (e.g. KPIs) are set up so that an effective post‑delivery review can be undertaken;
      * processes are in place so that the public or users are aware of the availability of the facility or service; and
      * processes are in place to respond to user feedback when the service starts.
      1. Dealing with uncertainty

Many of government’s investments are vulnerable to **uncertainty** – external factors that are beyond the investor’s control, and that can impact the delivery of our intended investment outcomes. Uncertainties can influence market conditions, including the demand or need for an investment and/or the ability of the supply market to provide an effective solution. Market changes can be unfavourable, presenting threats to investment delivery, or favourable, presenting opportunities for achieving greater value for money or enhanced benefits.

If these uncertainties are realised on an investment, they can challenge or invalidate our business case assumptions and impact our investment strategy’s feasibility. Investment options that are preferred and would be successful under one set of conditions can become unviable and regretted if circumstances change.

Uncertainty may be an influential determinant of investment success or failure and needs to be carefully considered in our investment proposals. Previously, investment guidance treated uncertainties in the same way as risks. However, uncertainties fundamentally differ from risks in that they are outside the investor’s control to manage or mitigate. They require different treatments, and therefore we cannot consider and plan for uncertainties using risk management tools and techniques.

**The difference between risk and uncertainty**

A typical risk matrix will identify project risks, assess their likelihood of occurring and likely impact, and suggest a course of action to address the risks if they eventuate. A successful risk mitigation strategy will result in the risk being managed so that its impacts on the project are reduced. The risk may have some impact on time and cost parameters, but essentially the project will proceed unchanged, seeking to deliver the scope, outcomes and benefits described in the business case and approved by Government. However, uncertainties are external events or conditions, driven by factors outside our control to manage. If an uncertainty is realised on a project, we should not seek to manage it, but rather adapt the investment strategy to respond favourably to the new conditions. A successful strategy to deal with uncertainty may result in a decision that changes the investment strategy’s course, putting it on a pathway to achieve a potentially different outcome altogether.

To successfully deliver investments with high degrees of uncertainty, Government needs **flexible** and **resilient** investment strategies that anticipate or identify when change may impact an initiative, and can then adapt and respond advantageously to prevailing conditions. When planning an investment that may be impacted by uncertainty, agencies should consider whether there is capability to use a ‘real options’ approach to increase investment flexibility and resilience. A real option is the capability to do something differently, coupled with the choice to exercise the option or not. It can provide management with the flexibility and ability to respond in real time to unfolding events. Such options are not mutually exclusive and can operate sequentially.

Adapting an investment to changing conditions may result in changing the investment’s trajectory or pathway. There may be significant changes to the scope of works being delivered, potentially impacting on the investment outcomes and intended benefits. It could also impact the procurement methodology, and budget and schedule parameters.

In Stage 3: Delivery, practitioners may need to actively monitor market supply and demand factors and identify trigger conditions and events that impact on the investment strategy. Practitioners may need to dynamically respond to these changing conditions, and adapt the investment as greater information and certainty become available. This may include exercising real options at the optimal or appropriate time.

Governance is an important consideration at this stage. Government investment approval is based on defined parameters, including scope, benefits, procurement strategy, budget and schedule. If it is considered appropriate or advantageous to adapt the investment strategy, the agency will need to seek appropriate approvals and authority. When managing projects that may be impacted by significant uncertainty, it is good practice to build in project review points at sensible stages in the project management plan to assess whether the project still offers value for money and should continue to proceed (i.e. ‘Go/No Go’).

Further information can be found in the **Real Options** technical guide.[[5]](#footnote-5)

* + - 1. Risk management

Traditionally, ‘risk’ refers to the chance of something happening that will have an impact on an objective or will possibly lead to harm or loss. Risk management refers to the processes for realising potential opportunities while managing adverse effects. Risk management optimises project outcomes by reducing the level of uncertainty with respect to achieving project outcomes.

Risk management is a systematic methodology applied to the identification, evaluation, treatment and control of risks. It is not just a one-off process at project start‑up. It is a dynamic and fluid process that needs continuous attention throughout the project lifecycle. Systematic and holistic risk management involves:

* + - communication and consultation with stakeholders in the activity;
    - establishing the context (strategic and operational environment);
    - risk identification, analysis and evaluation;
    - risk treatment (identification of action plans of provisioning for contingent items); and
    - monitoring of the risks and system, and review of the context, hazards and risks.

Effective project risk management leads to:

* + - reduced uncertainty;
    - increased comfort for the project teams, executives and politicians;
    - fulfilment of the government’s fiduciary responsibility to the taxpayer;
    - optimising project outcomes;
    - improved schedule performance; and
    - improved budget performance.

Government agencies are expected to apply a consistent and transparent risk framework based on the Victorian Government Risk Management Framework (VGRMF) for capturing and controlling risks associated with the Department’s objectives and deliverables. Some Government agencies have developed specific guidelines for applying risk management to projects, and supplementary guidance has been developed for the investment lifecycle series.

These risk frameworks are all based on the international standard AS/NZS ISO‑31000: 2009 Risk management – principles and guidelines adopted by Standards Australia and Standards New Zealand (further information can be found at www.standards.org.au).

* + - * 1. The link between issues and risk

The nature of the relationship between risk and issues is an important concept. A risk, to an extent, is a hypothetical assessment of sources of uncertainty. An issue is an event that reflects the ‘emergence or realisation’ of a previously identified, or otherwise unidentified, risk. An issue must be managed in order to avoid the full adverse consequences identified in the risk assessment.

Ideally, an issue should be able to be linked to an identified risk. The issue requires observation or active management in order to reduce the likelihood or impact of risk should it become a reality.

When an issue requires management, and cannot be associated with a previously identified risk, it is most likely an indication of the emergence of an ‘unknown’ risk, and would indicate further investigation of the potential scale of the newly identified risk is warranted.

* + - 1. Issue**s** management

Issues management involves monitoring, reviewing and addressing issues or concerns as they occur throughout the life of the project. Effective issue management can reduce identified risks to low-impact events or non‑events. When obvious that an issue cannot be resolved within existing resources (and the associated risk is emerging as a reality), the issue should be escalated to an authority or delegate capable of managing the risk.

Issues should be managed in order to prevent (or reduce) the likelihood or consequence of a major risk to the project having a significant negative impact on the project objectives. Issues can arise from a range of sources, such as stakeholders or the administration of the contract. Project teams should by this stage be maintaining an issues register or log. The issues log (or at least a summary of it) should be included in the regular reporting process.

An example of a regularly occurring issue is a contractor’s claims for variations. Reasons for this include perceived (or real) scope changes, schedule changes or schedule constraints. In these cases, contractors raise claims to formally seek financial compensation for having to make adjustments to pre‑arranged methods, work plans and rates specified in the contract.

Many claims can be readily resolved. However, some claims can be contentious and complex and lead to disputes between contracting parties. The project risk assessment (proactively) identifies the need for dispute resolution processes to be specified in the contract. Alternative dispute resolution processes are available so disputes can be resolved in a mutually acceptable timeframe. This reduces the need for lengthy and expensive legal proceedings. The parties are not obliged to use the dispute resolution processes in the contract. They can agree to use a different process if both view it as more likely to lead to a satisfactory outcome. The active management of the dispute in one of the elected processes is an example of the reactive management of issues.

* + - 1. Knowledge management

Knowledge and information management are connected. Knowledge management involves making the best use of knowledge by applying it in the collective interest of users. Information management is the process for managing how information is created, stored, retrieved and distributed.

Knowledge and information management are essential, related processes for contract management. They:

* + - ensure continuity and availability of project knowledge for effective contract management;
    - help meet legislative, policy and contractual requirements;
    - facilitate organisational learning and use of these learnings to continuously improve;
    - ensure that systems are established to deliver information that is readily accessible, accurate, consistent and current; and
    - facilitate cooperative sharing of knowledge within and beyond the project team and with relevant stakeholders to help meet ongoing governance expectations.

Document and records management are critical to information management. For contract administration, records should include:

* + - correspondence with contractors and other stakeholders;
    - records of discussions, including minutes of meetings;
    - monthly reports to owner, project steering committee and other agency stakeholders;
    - financial records, including contractor claims, approvals of progress and final claims and contract variations;
    - issues log;
    - risk management plan and the associated risk register;
    - documents (e.g. drawings) issued and revisions;
    - original contract documents; and
    - approvals from regulatory authorities.

Knowledge sharing can take place in a number of ways, including:

* + - project managers reporting to senior management;
    - internal agency project team meetings;
    - meetings with contractors or other stakeholders;
    - monthly project reporting to the owner or principal;
    - updating databases (e.g. contractor performance);
    - training programs for service operators;
    - training programs and skill development workshops for those responsible for maintenance and the supporting supply chain;
    - updating key project documentation (e.g. business case or business plan);
    - transferring knowledge to the agency and other agencies through formal briefings and project audit reports; and
    - ensuring documentation is maintained electronically and accessibly in the agency’s information system to maximise value to the organisation particularly of lessons learnt for reference in future investments or subsequent stages of the existing investment.

All projects should have a clear governance structure that includes regular reporting on contract performance. Reporting occurs at multiple levels, including to project steering committees and to government (e.g. through quarterly Major Projects Performance Reporting, budget papers, etc.). It is essential to report regularly (e.g. weekly, monthly, quarterly) on contract performance. This covers the scope, cost, time and quality indicators. It gives the owner or principal the knowledge to make informed decisions on the contract and other related issues, activities or projects.

The project team must encourage a culture of adherence to knowledge and information management processes, tools and systems. Fostering an appropriate culture is also useful for sharing and transferring tacit knowledge within the agency and to other State Government agencies. Project teams must always treat any ‘commercial‑in‑confidence’ information appropriately.

* + - 1. Checklist – key related processes

Checklist for key related processes

* Have processes been set up to ensure that the organisation is accountable for ongoing service delivery, will be ready to operate the infrastructure, or is prepared for the new operational environment? What are these processes?
* Have key stakeholders been identified and communication strategies developed and applied?
* Have processes been developed to monitor, review and address issues or concerns as they arise? How will these be reported?
* Is a risk management plan available? Does it make clear the approach to managing risk throughout the project life? Does it clarify roles and responsibilities for managing risk throughout the project life?
* Is a risk register available, and how will it be reviewed and updated? What are the 10 top risks to the project? Are the treatment strategies relevant and clear?
* Have adequate document and records management systems been set up?
* Has a documented process for regular reporting on contract performance to the project owner or principal been established and implemented?
* How do you propose to share knowledge? Is there a culture of sharing this knowledge? If not, how do you propose to change this culture?

* + 1. Project assurance

There is a range of options for reviewing projects and making sure they are being effectively delivered. Gateway reviews may be required for medium-risk projects and are mandated for HVHR projects. Whether required or not, it may be useful to review the issues that would normally be considered in a Gateway review.

The fifth Gateway review focuses on assessing:

* + - whether the business solution is robust before it is delivered into service;
    - organisational readiness to implement business changes pre- and post‑delivery;
    - what contract management arrangements are in place or being arranged; and
    - whether there is a basis for evaluating ongoing performance.

There is more information at [www.dtf.vic.gov.au/infrastructure-investment/gateway-review-process](https://www.dtf.vic.gov.au/infrastructure-investment/gateway-review-process) and in the Gateway review process guidance material.

* + - 1. Gate 5: Readiness for service

Gate 5 investigates the organisation’s readiness to make the transition from the solution to delivery. Where appropriate, it assesses the capabilities of delivery partners and service providers.

The aims of the review include, but are not limited to, confirming:

* + - contractual arrangements are up to date;
    - the business case (as reflected in the investment business plan) is still valid and is not affected by internal and external events or changes;
    - the original projected business benefits are likely to be achieved;
    - there are processes to ensure the long‑term success of the investment;
    - necessary testing (commissioning, business integration, acceptance testing) was done;
    - agreed plans for training, communications and roll‑out are complete and robust;
    - all defects and incomplete works have been identified;
    - all parties agree plans for managing risk, and ongoing risks are being managed effectively;
    - arrangements for handover to the operational business owner; and
    - lessons for future projects are identified and recorded.

Documentation reviewed during Gate 5 includes:

* + - updated requirements definition; and
    - close‑out (if completion at delivery) or status reports (for budget versus cost, actual versus planned schedule, risk management, communications, environmental performance, change management, benefit management plan, a plan for performance measurement, updated contract).

# Appendix A

## Appendix A1: Channel deepening compliance

This information is from the Channel Deepening Environmental Effects Statement (EES) Panel Report, 11 February 2005.

The statutory and policy compliance for the Channel Deepening Project included the following conventions, acts of legislation (Victorian unless separately annotated) and policies. It is presented as a case study to show the complex legal frameworks with which a project may have to comply.

### Primary environment assessment and protection legislation and policy

*Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC)

*Environment Effects Act 1978*

*Environment Protection Act 1970*

*Planning and Environment Act 1987*

### Relevant generic policy

National Strategy for Ecological Sustainable Development 1992 (Cwth)

Inter‑Governmental Agreement on the Environment 1992 (inter‑governmental)

*Growing Victoria Together*

*Melbourne 2030*

*Linking Victoria*

### Ports and freight legislation and policy

*Port Services Act 1995*

Channel Deepening Facilitation Bill

Victorian Ports Strategic Framework 2004

Melbourne Port@L 2002

Victoria: Leading the Way 2004

Shaping a Prosperous Future, Prospects Issues and Choices, 2003

Next Wave of Port Reform in Victoria 2001

Linking Melbourne – Metropolitan Transport Plan 2004

Future Directions 2001

### Marine and water environment legislation and policy

*Quarantine Act 1908* (Cwth)

*National Ocean Disposal Guidelines for Dredged Material 2002* (Cwth)

*Australia’s Ocean Policy 1998* (Cwth)

Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters 2000 (Inter‑governmental)

*Coastal Management Act 1995*

*Marine Act 1998*

*Pollution of Waters by Oil and Noxious Substances Act 1986*

*State Environment Protection Policy (Waters of Victoria) Act 1988*

Schedule F6 *Waters of Port Phillip Bay 1997*

Schedule F7 *Waters of the Yarra Catchment 1999*

*State Environment Protection Policy (Groundwaters of Victoria) Act 1998*

Victorian Coastal Strategy

Victorian Biodiversity Strategy

Waste Management Policy (Ships’ Ballast Water) 2003

Industrial Waste Management Policy (Waste Acid Sulphate Soils) 1999

Best Practice Environmental Management Guidelines for Dredging 2001

### Resource conservation and management legislation and policy

EPBC Act (Cwth)

*Fisheries Act 1995*

*National Parks Act 1975*

*National Parks (Marine National Parks and Marine Sanctuaries) Act 2002*

*Crown Land (Reserves) Act 1978*

*Flora and Fauna Guarantee Act 1988*

*Wildlife Act 1975*

*Water Act 1989*

*Water Industry Act 1994*

*Catchment and Land Protection Act 1994*

*Land Act 1958*

Victoria’s Biodiversity Strategy 1997

Victoria’s Native Vegetation Management: A Framework for Action 2002

### Cultural resource legislation and policy

EPBC Act (Cwth)

*Native Title Act 1993* (Cwth)

*Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cwth)

*Historic Shipwrecks Act 1976* (Cwth)

*Archaeological and Aboriginal Relics Preservation Act 1972*

*Heritage Act 1995*

### Noise policy

*State Environment Protection Policy (Control of Noise from Commerce Industry and Trade) 1992*

Interim Guidelines for Control of Noise from industry in Country Victoria 1989

EPA Noise Control Guidelines (Construction)

### Air policy

State Environment Protection Policy (Ambient Air Quality) 1999

State Environment Protection Policy (Air Quality Management) 2001

Industrial Waste Management Policy National Pollutant Inventory

Victoria’s Greenhouse Strategy 2002

### Tourism and recreation policy

A Medium to Long Term Strategy for Tourism – Green Paper 2003 (Cwth)

Victoria’s Tourism Industry Strategic Plan 2002‑2006

Melbourne Surrounds Regional Tourism Development Plan 2004‑2007

Victoria’s Food and Wine Tourism Plan 2004‑2007

Victoria’s Adventure Tourism Action Plan 2002‑2004

Victoria’s Nature Based Tourism Directions and Opportunities for Victoria 2000‑2003

### State Planning Policy Framework

### Local Planning Policy Framework

### Other legislation and policy

*Occupational Health and Safety Act 2004*

*Essential Services Act 1958*

*Electrical Industry Act 2000*

*Mineral Resources (Sustainable Development) Act 1990*

*Gas Safety Act 1997*

*Pipelines Act 2005*

*Health Act 1958*

*Seafood Safety Act 2003*

Victorian Shellfish Quality Assurance Program

Dredging Strategy for the Port Waters of Geelong and Melbourne Environmental Management Plan 2000

Victoria Emergency Management Manual

Melbourne Port Emergency Management Plan 2004

Port Phillip Region Marine Pollution Contingency Plan 1999

## Appendix A2: Channel deepening environmental evaluation

This flowchart shows the statutory and policy requirements that the Channel Deepening Project needed to comply with.

Evaluation framework

◼ Commonwealth and State legislation and policies

* SEES assessment guidelines
  + Evaluation objectives
* Project objectives

Environment impact and risk assessment processes

◼ Issue identification

* Modelling and analysis
* Predicted effects
* Risk events

◼ Review against evaluation framework

Project development process

◼ Channel design

* Dredge technology selection
* Dredging strategy

◼ Dredging material management

Project development process

Environment management system

Review CDP against evaluation framework

* Environment management plan

Source: Channel Deepening Supplementary Environment Effects Statement 2007.

# Appendix B: Change control register template

# Appendix C: Project closure report template

1. Projects exceeding $250 million are considered High Value High Risk or otherwise classified as high risk by DTF’s risk assessment tool and are subject to additional processes. [↑](#footnote-ref-1)
2. [https://www.dtf.vic.gov.au/infrastructure‑investment/construction‑supplier‑register](https://www.dtf.vic.gov.au/infrastructureinvestment/constructionsupplierregister) [↑](#footnote-ref-2)
3. Note that the VCC Framework represents best practice for all projects. Practitioners are encouraged to consider the VCC opportunity presented by any project over $100 million. However, those projects that do not meet the above criteria, and do not offer a reasonable VCC opportunity, will not be required to comply with the Framework. [↑](#footnote-ref-3)
4. The board or steering committee resolves issues of significance that have been escalated through the project management organisational structure. [↑](#footnote-ref-4)
5. See DTF website: [www.dtf.vic.gov.au/infrastructure-investment/investment-lifecycle-and-high-value-high-risk-guidelines](https://www.dtf.vic.gov.au/infrastructure-investment/investment-lifecycle-and-high-value-high-risk-guidelines) [↑](#footnote-ref-5)