Infrastructure NSW

Contingency Management Guidebook

Guidelines for optimising capital investment funding

February 2014
Definitions

Introduction

There are inherent uncertainties in the delivery of major capital projects, including with respect to the final cost outcome. It is prudent to include some contingency allowance in public sector and private budget provisions for capital projects. It is equally prudent that appropriate controls are established and exercised - at project, program and portfolio levels - for the setting and management of contingency allowances.

The issue of appropriate contingency management across the General Government Sector capital portfolios has been raised over recent years in several high profile reviews, most recently the NSW Commission of Audit (May 2012) and the Parliamentary Inquiry into rail infrastructure project costing in NSW (dated March 2012).

Common themes that have been drawn from the majority of these reviews include the inconsistent and varying levels of rigour applied to setting contingency sums; and the lack of on-going focus on risk management once projects move past the point of financial investment approval.

The development of these leading practice guidelines provides an opportunity to build on observed good practices in the public and private sectors, and provide a framework for the optimisation of expenditure outcomes across the NSW capital portfolio.

Contingency management is only one part of the story

Contingency is an integral component of the overall risk assessment and budget setting process prior to an investment decision and a key aspect of sound project management across the project lifecycle.

Contingency is not a substitute for proper cost estimating. Contingency should not be added to base estimates – in budgets, cost plans or forecasts – as an alternative to sound, properly founded estimating. An undesirable event that is highly likely to occur should be included in the base estimate, rather than in contingency.

Contingencies must be consistent with the residual risk in the costed project solution, should be as specific as possible and should only be determined once adequate Project definition and solution development has occurred with commensurate, thorough cost planning.

Key definitions and roles

Some of the key definitions used throughout these guidelines are outlined below:

Contingency provisions are sums allocated within a budget or cost plan to cover the cost of unplanned activities or risks that are necessary to deliver project outcomes and require additional funds. Contingency is not intended for changes to project scope outside the business case for which the investment was approved.

Major projects are defined in the Infrastructure NSW Act and Restart Fund Act as projects over $100m.
Special/ mega projects are exceptional projects with unique risk profiles, which by their size and character make a significant impact in terms of government regulatory systems, labour markets, local political and social, financial, physical and natural environments and can materially affect the State's fiscal position.

In terms of roles involved in contingency management:

► **Investor:** The Treasurer as the Government Minister accountable for fiscal management and oversight of aggregate capital spending across government through the budget process, including the allocation of capital to and between clusters/agencies, the approval of the projects to be funded from within those allocations and management of the State-wide fiscal risks.

► **Client:** The entity within a portfolio responsible for the development and prioritisation of the portfolio's capital projects and programs, including the definition of Objectives and Scope, Statement of Service Need and management of associated portfolio-level risks. The client is the ultimate owner of the completed asset.

► **Delivery Agency:** Government Agency responsible for delivery of Project(s)/program(s) and management of program and project level risks.

► **Project:** A temporary team within a Delivery Agency or a separate special purpose organisation, which will deliver the project/program in accordance with a specific Business Case.

Further key terms and definitions can be found in the Glossary, located in Appendix A.
Contingency Management Framework overview

Objective
The objective of the framework is to develop 'leading practice' guidelines on contingency management.

The primary focus of the framework is to present procedures that could be applied to the governance and release of contingency.

Contingency Management Framework
The framework includes guidance on how contingency funds should be defined and controlled based on the risk profile, targeting optimal efficiency for contingency management performance.

Contingency management is fundamentally integrated with the Risk Management process, and subsequently is a core component of the overall project, program and portfolio management practices.

The Contingency Management Framework is comprised of six (6) key process areas, which are applied at various stages throughout the Investment Lifecycle. These are:

► Calculate
► Allocate
► Spend
► Return
► Monitor
► Report

The six contingency management processes have an interdependent relationship, demonstrated below in Figure 1.

The value and assessed risk of a project changes over its lifecycle. For example, the best pre-construction planning will greatly reduce contingency allowances. Allowances for design will reduce/firm from concept design stage to contract document stage. Construction contingency for unforeseeable conditions will diminish if these conditions are not encountered.

It is important to note that the Contingency Management Framework is not a strictly linear process, as monitoring and reporting activities occur continuously throughout the investment lifecycle. The Calculate process may be triggered multiple times, including during activities in the Spend and Return processes.
Contingency Management Processes

A description of each of the six processes is outlined below:

► **Calculate** provides practitioners the different options available for determining contingency funds.

► **Allocate** provides guidance about delegation and control of contingent risks and associated funds to the entities identified above: Investor; Client; Delivery Agency; Project to maximise contingency management.

► **Spend** provides guidance about controlling and authorising the release of contingency funds when a contingent risk materialises.

► **Return** provides guidance on the release of surplus contingency funds to the Client/Investor for reallocation where contingent risks are not realised.

► **Monitor** provides guidance to practitioners on the processes to be undertaken to observe and document contingency management performance throughout the investment lifecycle.

► **Report** outlines the requirements of practitioners to disclose information regarding performance and provide transparency to enable effective governance and decision-making.
Contingency Management
Framework

Calculate

As the first step in the process, the calculation of contingency is a vital element as it determines the magnitude of funding to be held in reserve: From the prior review, a ‘one size all’ approach was deemed not appropriate for calculating contingency.

At a time of significant pressure on government budgets, it is essential that contingency is calculated appropriately - too much, and this undermines investment returns; too little, and the program delivery could be compromised.

Objective

Quantify appropriate contingency funds across the portfolio, based upon the assessed risk profile to enable accurate financial appraisal and control.

The calculation of contingency allowance requirements should align with the project risk profile, complexity, stage of the investment lifecycle and benchmarks based on past project cost performance.

Options for Calculating Contingency

Potential options available for the calculation of contingency include:

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<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>1. Fixed percentages of the base cost estimate (Deterministic)</td>
<td>▶ Simplistic method for estimating contingency ▶ Allows for estimating contingency funds required when little information is available ▶ Greater certainty if based on actual cost performance of similar completed project/s.</td>
<td>▶ May not reflect risk profile of project or program</td>
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<tr>
<td>2. Analysis to estimate ‘most likely’ contingency requirement based on probability of occurrence (Probabilistic)</td>
<td>▶ Contingency requirements based on risk profile ▶ Allows for allocation of risks and contingency across governance levels</td>
<td>▶ Relies on accuracy and completeness of risk profile ▶ Typically more complex, time consuming calculations ▶ Difficult to assign contingency to specific risk events. ▶ May result in overly conservative estimate.</td>
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</tbody>
</table>

The preferred option is to adopt a fit-for-purpose calculation method based upon project value, complexity and risk profile through the lifecycle, not “one-size-fits-all.”
The calculation of contingency allowances requires a robust risk profile for each project, as well as agreement across all levels of governance as to the level at which each risk is best managed.

### Key Activities

The following key activities occur as part of the Calculate process:

- Review and QA the portfolio-level risk profile and ensure the project and program-level risks are appropriately included and accounted for (including aggregated effects)
- Liaise with Risk Owners to agree changes as part of optimising the portfolio risk profile and corresponding mitigations, where appropriate
- With reference to the agreed portfolio risk profile, conduct the relevant contingency calculation, according to the nominated method (i.e. deterministic, probabilistic)
- Support central bench-marking activity by drawing on historical performance across the portfolio including from Projects and Delivery Agencies (e.g. best practice construction planning to minimise contingency allowances), Client and Investors
- As part of ongoing risk management throughout the lifecycle, conduct re-calculation of contingency allowance and in compliance with the change control process.

There is no standard expectation as to who is accountable for each of these activities; such responsibilities may vary across the functional teams/roles in a given Agency, depending on factors such as the size of the project/program, risk profile, delegated authority and capability.

Importantly, calculation of contingency does not occur just once: As the following CM processes will indicate, Contingency is reviewed and amended as appropriate based on changes to the risk profile and/or progression through the investment lifecycle (e.g. moving from say 50% during business case development to say 15% during solution definition).
Example Investor Controls

There are a number of controls that the Investor (Treasury) undertakes as part of effective control during the Calculate phase:

1. **Review the fiscal risk profile across the total State capital forward estimates and identify and account for Investor-level risks on a quarterly basis**
   - Identify any input cost price risks to be hedged for major construction projects (e.g. steel)

2. **Require QA by INSW of the contingency calculations for major and mega projects at gateways and throughout the project lifecycle**
   - This also applies for other exceptional cases where it may materially impact the State’s overall fiscal position / credit rating

3. **Mandate inclusion of contingency ranges in detailed business case submissions**
   - For instance the Target / Most Likely / Provision, as either ‘P’ Value or percentage of Base Cost Estimate

4. **Require INSW to undertake benchmarking based on historical performance across the State capital portfolio**
   - Past performance of risk analysis, contingency allowance including peer review(s)
   - Root cause and contributing factors where contingency has been exceeded

Case Studies

To help demonstrate how contingency is calculated effectively, we have included examples of good practices across both local (e.g. NSW, Australia) and/or global organisations:

**Key Example: Roads and Maritime Services – Lifecycle stage based approach**

Roads and Maritime Services (RMS) uses both deterministic and probabilistic approaches to calculate contingency requirements for projects depending on the phase of the investment lifecycle. Deterministic methods are applied to projects prior to reaching the Detailed Business Case phase, after which contingency requirements are calculated using probabilistic analysis methods to establish P90 value.

➢ **Deterministic Approach**
   - Percentage based allowance made on Base Cost Estimate
   - Standard contingency percentage ranges for Strategic, Concept and Detailed phases
   - The percentage allowances are based upon an extensive database of tender prices and rates, and project out turn costs over the last decade.

➢ **Probabilistic Approach**
   - Probability distribution assigned to elements of Base Estimate and risk analysis performed for each project
   - Monte Carlo based analysis to determine ‘most likely’ outcome
   - As part of the project cost estimation both a P50 and P90 figure is calculated which informs a range of outcomes.
   - Contingency requirements taken as the value 90% likely not to be exceeded (P90) from the Monte Carlo simulation

The approach adopted by RMS ensures consideration is given to the risk profile of the project, and meets the requirements of current Commonwealth guidance.

Source: RMS, November 2013
Health Infrastructure has established an extensive database and historical record of contingency calculations which supports a deterministic method applied early in the project lifecycle (prior to P50). It is calculated as part of the Project Development Plan (PDP) where the ETC is locked in, and has proven to be a repeatable and accurate method across the HI portfolio.

- The deterministic contingency factor is 25%, which is then distributed across 4 categories:
  - Planning (5%)
  - Design (5%)
  - Construction (5%)
  - Executive (10%)

The management and control of this contingency is via the Executive Steering Committee (ESC) which has representation from Treasury, Ministry of Health, Health Infrastructure and others. Project managers do not have access to the contingency; they are tasked with delivering to the net budget.

This deterministic approach has been proven across multiple capital projects within the HI portfolio and is continually validated by the ‘living’ dataset of project delivery budgets.

Source: Health Infrastructure, November 2013

Contingency calculations by a global mining company occur at both project and Owner (Investor) levels. Project level contingency is limited to project activities, and excludes scope changes.

Owner level contingency is calculated following the project level calculations and considers a broader context than that covered under project contingency. This includes consideration of the Owner’s scope, as well as all uncertainties and risks outside of the mandate of the project. Contingency allowances are calculated using either deterministic or probabilistic methods.

- The deterministic calculation approach can be used for determining contingency requirements:
  - On a work package, facility or major commodity basis
  - For each project as a whole
  - A combination of the two, ensuring risks are not double counted.

- The probabilistic approach involves:
  - The use of quantitative techniques such as Monte Carlo simulation
  - Determines contingency requirements from assessed risk and uncertainty basis.

The global mining company uses deterministic approaches during early phases and probabilistic methods during detailed and definitive estimate phases. This improves the efficiency of calculating contingency requirements in early lifecycle phases, and addresses undue conservatism in calculations as a greater understanding of the project is developed throughout the lifecycle.

Source: EY
Allocate

NSW Treasury’s interest is that allocated capital budgets and contingency allowances are sufficient to cover the cost of completing approved works, so the Consolidated Fund is not put in a position of having to provide additional funding, whilst avoiding being unduly conservative in its approach.

In allocating contingency, there needs to be a level of delegation and control that aligns incentives at project delivery level that minimises the drawdown of contingency through robust risk management.

Objective

The objective of Allocate is to appropriately delegate control of contingency between Investor, Client, Delivery Agency and Project levels, to promote efficiency of capital and optimise cost management.

The allocation of contingency (and corresponding risk ownership) to the governance authority best placed to manage and control the risk is crucial to maximising project cost performance and efficiency.

Options for Allocating Contingency

There are several potential options available for the delegating the allocation of contingency funds to the roles of Investor, Client, Delivery Agency and Project over the investment lifecycle:

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<thead>
<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All contingency allocated only at Investor Level</td>
<td>Consolidation of Contingency Allowance across State-wide portfolios ► Own fiscal accountability where projects of exceptional size (e.g. mega) or unique risk profile will impact the entire State fiscal position</td>
<td>► May undermine Deliverer responsibilities ► May lack understanding or capability to manage Project and Deliverer risks ► Overly bureaucratic and will slow decision making</td>
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<tr>
<td>2. All contingency allocated only at Client Level</td>
<td>As ultimate Asset Owner, has vested interest in how the funding is utilised ► Manage portfolio/cluster-level risk; full contingency amount not required by each project on its own</td>
<td>► Not in pure Investor or Delivery role therefore may lack understanding or capability to manage corresponding risks ► Limits Program Manager/Project Director’s authority to manage ► Client might not have delivery capability</td>
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</table>
3. All contingency allocated only at Delivery Agency Level

- Some reduction in the total Contingency Allowance held
- Full contingency amount not required to be held by each project
- Deliverer manages all risks across its portfolio
- Limits Program Manager/Project Director’s authority to manage
- May lack understanding or capability to manage Investor risks
- No incentive to meet cost plan and limit use of contingency funds

4. All contingency allocated only at Project Level

- Clear understanding of Project level delivery risks and issues, where much of the contingency is related to the delivery risk profile
- Lack of transparency to client and investor as to project status
- Full contingency amount held by each project
- Misalignment with delegation of authority
- Single point of failure for project performance
- Project lacks understanding and capability to manage Client, Deliverer and Investor level risks

5. Appropriate allocation across all or some levels at Client/Investor and Delivery Agency/Project

- Contingency managed at the governance level best placed to control and manage the corresponding risk
- Potentially increased time/expense for release approval
- Confusion of accountability may occur if not well defined and equipped with relevant management tools

The preferred option is 5 – Combination of allocation at Project/Delivery Agency and Client/Investor levels where appropriate, therefore allowing Risk Owners to effectively manage an allocation which most closely matches their capability and proximity to control the risk.

This is the most appropriate way of managing risk across a State-wide portfolio of major infrastructure programs and projects which includes exceptional (e.g. mega/special) projects with unique risk profiles.

The nature of the exceptional projects is that by their very size and character, they make a significant impact in terms of government regulatory systems, labour markets, local political and social, financial, physical and natural environments and can materially affect the State’s fiscal position. As a result, there are significant whole of Government risks that need to be owned and allocated to the highest governance levels.
The build-up approach to allocating contingency across governance levels requires agreement on the allocation of risks and transparency on how each risk will be managed, this needs to be defined as part of the project's budget approval.

Contingency build-up across a portfolio is additional to the project base cost estimate, as demonstrated below in Figure 2.
Figure 2 – Illustrative contingency build-up within a project and/or portfolio

Project Level → Agency Level → Investor/Client Level

- Project Level Contingency
- Project Level Inherent Risks Allocation
- Project Level Risks Allocation

- Agency Level Contingency
- Agency Level Risk Allocation

- Investor/Client Level Contingency
- Investor/Client Level Risk Allocation

Base Cost Estimate

ETC = Estimated Total Cost

Degree of Confidence

Total Cost

Contingency Range

ETC Range
Key Activities

The following key activities occur as part of the Allocate process:

► With reference to the latest portfolio risk profile, identify any fiscal risk allocations from a total State budget perspective
  o Note that Investor-level risks managed by Treasury may include market/foreign exchange risk while those managed at the cluster-level focus on portfolio risks particular to the sector (e.g. multi-modal union action, industry resource constraints)
► Approve contingency delegations and controls (according to respective roles of Investor, Client, Delivery Agency, Project) as part of the ERC decision to fund a project
► Accept and manage contingency funds as allocated via the approved process
► Participate in the regular review and allocation processes as part of ongoing risk management across the portfolio/program/project lifecycle.

There is no standard expectation as to who is accountable for each of these activities; such responsibilities may vary across the functional teams/roles in a given Agency, depending on factors such as the size of the project/program, risk profile, delegated authority and capability.

Example Investor Controls

There are a number of controls that the Investor (Treasury) undertakes as part of effective control during the Allocate phase:

### Key Investor Controls

1. **Define Governance levels for contingency allocation for approval at Expenditure Review Committee (ERC) when budget is approved for major projects**
   - Based upon governance roles, including criteria under which the Investor should hold a central contingency provision to manage State-wide fiscal risks

2. **Require INSW to perform aggregated risk analysis across clusters and the whole State portfolio**
   - Diversification of non-systemic contingent risks (due to pooling of project cost variability outcomes) reduces the total amount of contingency allowance required at the portfolio level.
Case Studies

To help demonstrate how contingency is allocated effectively, we have included examples of good practices across both local (e.g. NSW, Australia) and/or global organisations:

**Key Example: Health Infrastructure – Cost Planning and Reporting Standards**

Health Infrastructure manages contingency centrally under the Project’s Executive Steering Committee (ESC). Allocation of contingency funds awarded to Project and Client levels is made through a formal submission process to the ESC, based on relevant nominated Risk Owner who is the most informed party in relation to the project and project risks.

- Under the Health Infrastructure model, all contingency funds are held centrally by the Executive Steering Committee and are allocated to either Project or Client levels based on a formal request process. To be allocated contingency funds, formal requested for are required to consider:
  - Phase of the project
  - Type of risk/level impacted by risk
  - Allowance required for risk

- Project and Client contingencies kept and maintained separately to allow for management of the contingency sums

The approach adopted by Health Infrastructure allocates contingency to the governance level best placed to manage the risks, promoting efficiency and avoiding duplication of contingency funds. Whilst contingency is set on a project-by-project basis, the overall management and control of the contingency is best achieved at a portfolio level.

Source: Health Infrastructure, November 2013

**Mega-Project Key Example: Regional Rail Link (Victoria) – Allocation of contingency**

The approach for the control of contingency adopted by Regional Rail Link Authority (RRLA) was to separate risks into ‘work package risk’ and ‘program wide risk’ categories, and manage contingency provisions separately across the two categories.

- **Work Package Risk & Contingency (managed at Project level)**
  - Cover risks identified as work package risk
  - Risks identified as specific and unique to individual work package
  - Ownership of work package risks allocated to project level

- **Program Wide Risk & Contingency (managed at Delivery Agency/Investor level)**
  - Cover all potential risk items which may impact the overall cost outcome of the Project
  - Program risk quantification includes assessment of the total aggregate contract and master schedule outcomes
  - Ownership of program wide risks allocated to RRLA Leadership Team/Government level, which equates to the Delivery Agency/Investor respectively

This approach ensured that both risk and contingency were managed at the most appropriate governance level, in turn driving optimal cost and delivery performance.

Source: EY
Spend

The previous review found that a proportion of the sampled contingency spend either had insufficient data to support the contingency expenditure, or was for scope changes beyond the agreed brief. Greater visibility and controlled basis for contingency spend is therefore required to enable the most effective use of capital.

Objective

The objective of Spend is to control the release of contingency funds, based on delegated authority, in the event that risks/events identified in the cost plan are realised to enable effective delivery.

Key principles to support this objective include:

• Release of contingency according to its approved purpose
• Execute in a timely and consistent manner
• Approval in line with delegations of authority
• Non-risk items (e.g. changes to project outcomes/benefits) managed via change control process
• Maintain transparent and traceable documentation to support monitoring and reporting.

Approval to access contingency funds should depend upon who bears the risk of funding a project's cost.

Reallocation of funds needs to be approved by the Investor or their delegate. For an agency with a Capital Planning Limit (CPL) this may, for changes clearly manageable within the Cluster, be borne at a Cluster level (assuming that the funds released are applied to other approved projects or conversely that over-runs are managed by re-prioritising other projects within the cluster).

However, for mega-projects, or for projects that are funded independently of a CPL, approval for contingency spend sits with the Investor or their delegate.

Options for spending Contingency

The potential options available for the Spend process are aligned with the options for Allocate, and include assigning the delegation of release approval authority across the Investor, Client, Delivery Agency (Deliverer) and Project level governance authorities over the investment lifecycle:
<table>
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<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
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<tbody>
<tr>
<td>1. Spend approval solely at Investor level</td>
<td>- Distinction between project cost plan and contingency budget&lt;br&gt;- Requires Project/Deliverer to clearly define risk realised or to be mitigated</td>
<td>- Increased administration for approval by Investor&lt;br&gt;- May lack understanding or capability to manage release requirements&lt;br&gt;- Inefficient delegation of duties – slower decision making could introduce commercial risk.</td>
</tr>
<tr>
<td>2. Spend approval solely at Client level</td>
<td>- Clear distinction between project cost plan and contingency budget&lt;br&gt;- Well controlled as requires Delivery Agency to clearly define and justify need for release to the Client, the ultimate Asset Owner</td>
<td>- Increased administration for approval at Client level&lt;br&gt;- May lack understanding or capability to manage release requirements&lt;br&gt;- Inefficient delegation of duties – slower decision making could introduce commercial risk.</td>
</tr>
<tr>
<td>3. Spend approval solely at Delivery Agency level</td>
<td>- Clear distinction between project cost plan and contingency budget&lt;br&gt;- Well controlled as requires Project to clearly define and justify need for release</td>
<td>- Increased administration for approval at Delivery Agency level&lt;br&gt;- May lack understanding or capability to manage release requirements</td>
</tr>
<tr>
<td>4. Spend approval solely at Project level</td>
<td>- Best knowledge of project risks and contingency requirements&lt;br&gt;- Efficiency due to single level of approval for release</td>
<td>- Lack understanding or capability to manage release requirements at Investor and Client levels&lt;br&gt;- No ‘stretch target ’for Project manager to manage to cost plan as contingency included in project budget&lt;br&gt;- Lack of transparency of project expenditure at “higher” levels</td>
</tr>
<tr>
<td>5. Spend approval assigned to some or all of Investor/Client and Project/Delivery Agency levels, according to appropriate allocations</td>
<td>- Clear distinction between project cost plan and contingency budget&lt;br&gt;- Requires Project and Deliverer to define and justify need for release&lt;br&gt;- Delegated approval of release for Project and Deliverer levels rest with appropriate risk owner</td>
<td>- Potential increased administration for the release of contingency&lt;br&gt;- Requires clear definition of authority and approvals</td>
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</table>
The preferred option is 5 – Approval to Spend contingency assigned to the appropriate governance role (according to the approved allocations by Investor/Client/Project Delivery/Project).

Contingency allowance is made only for the realisation of risks and is not an allowance made for changes in the project scope or for risks captured within the project Base Cost Estimate. Contingency funds should only be released for items covered under the definition of contingency.

The Spend process typically requires the delegation of authority to approve the release of contingency funds to be endorsed via a single governance authority e.g.; change control board, comprising responsible individual’s assigned responsibility during the Allocate phase.

The approving authority is responsible for ensuring the appropriate release of contingency funds, as well as ensuring any new or residual risks resulting from realised risks are identified and appropriately captured.

For transparency, documentation and reporting to the Investor about use of contingency funds, is essential. This will also support decision making as to risk management and or release and reallocation of surplus contingency funds.

Key Activities

The following key activities occur as part of the Spend process:

- Manage release of contingency funds according to approved allocation
- As part of risk management, maintain Contingency Allocation Register with any new, residual or modified risks and contingency allowances following contingency release
- Escalate and manage Register updates via change control process as required
- Provide timely input to support governance monitoring and reporting

Example Investor Controls

There are a number of controls that the Investor (Treasury) undertakes as part of effective control during the Spend phase:

Key Investor Controls

1. Ensure contingency funds across the State capital budget are released according to approved allocations

2. Approve reallocation of surplus contingency funds for other use.
Case Studies

To help demonstrate how contingency is spent effectively, we have included examples of good practices across both local (e.g. NSW, Australia) and/or global organisations:

Key Example: NSW Transport Projects Division (TPD) – Contingency Release

TPD assigns authority to approve the release of contingency funds across both Project and Delivery Agency governance levels. Under this structure, only contingency allowances allocated for project specific risks are held within the project budget and controlled at the Project level, however additional approval for use may be required in line with delegation of authority (DoA).

TPD DoA Contingency Release Approval levels:

- **Project Director:** Project Contingency (P50)
- **TPD Deputy Secretary:** Program contingency (difference between P90 and P50)

The TPD model of contingency release approval incentivises Program Managers/Project Directors to deliver projects efficiently and within the initial Base Cost Estimate, while also allowing the Delivery Agency to review and validate any contingency release submissions of significant magnitude and/or likely to impact on a broader whole-of-agency context.

Source: TfNSW, November 2013
Throughout the project and program lifecycle, risks change and hence their corresponding contingency allocation. Effective governance is required as part of such changes to ensure contingency spend remains within approved limits and for its intended purpose.

Project and Program Change Control is therefore a core part of effective contingency management.

Contingency funds are not released for any risk or issue materialising without passing through the gated Change Control process.

Risks and issues which materialise on a project are reviewed under the Change Control process to confirm and validate that the item is covered under contingency. The six observations of effective change control identified are:

- Early identification and warning
- Minimal change
- Impact assessment
- Delegated Authority and Change Board
- Visibility of decision
- Change documentation

The change control process, including the six observations, was used as a gating process for the appropriate release of contingency, as outlined in the figure below:

The level of governance authority and involvement required to obtain approval is dependent upon the category which the risk or issue is aligned.

Assigning governance levels and thresholds for contingency release allows for the setting of ‘stretch targets’ and ensures an appropriate level of diligence based on the significance and impact of the risk.

Source: EY
Return

The purpose of the Return process is to recognise the time value of money and make effective use of all capital funds, whilst maintaining an acceptable risk position. The identification of surplus contingency funds needs to be transparent to enable effective investment decision-making.

From our previous review, we know this is in the early stages of development within a number of Agencies in NSW.

Objective

The objective of Return is to control the release and reallocation of any surplus contingency funds to enable optimal use of available capital.

Options for returning Contingency

Contingency funds should be released (returned to the relevant governance level) as they become surplus; i.e. when the risk/event for which they were allocated is no longer applicable and has not been realised. This means that at any point in time, the optimal level of capital funds are available for investment across the portfolio, rather than sitting unnecessarily dormant or tied up against obsolete risks.

As with all the Contingency Management processes, transparency of the cost plan and allocation of contingency across the project lifecycle is essential for this to occur effectively.

Options for returning Contingency

The potential options available for Return vary based on the timing of reviews performed to identify contingency allowances able to be refunded to the Investor, or redistributed across the program or portfolio to account for emergent or enlarged risks.

Review frequency across the investment lifecycle should be agreed prior to the Detailed Business Case phase of the investment lifecycle:

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<tr>
<td>1. Return all contingency funds remaining at the end of the project lifecycle</td>
<td>Contingency remains within project budget across the entire lifecycle</td>
<td>Does not return contingency to Investor for investment elsewhere until end of project, potentially resulting in delay to benefits or missed investment opportunities</td>
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<td></td>
<td>Reduced time and expense administering contingency management</td>
<td>Conservative approach retaining contingency for project duration regardless of changes to the risk profile</td>
</tr>
</tbody>
</table>
2. Review contingency requirements and return excess funds to the Client (or Investor on an annual basis as part of the budget process)

- Contingency returned to Investor throughout lifecycle allowing for investment elsewhere
- Contingency funds not released immediately when no longer required
- Period between reviews may be significant, potentially resulting in delay to benefits or missed investment opportunities, particularly if delay misses the annual Budget cycle.

3. Review contingency requirements and return excess funds to the Investor (or delegate) for redistribution at a regular frequency

- Contingency returned to Investor throughout lifecycle allowing for optimal investment elsewhere
- Least conservative approach as only contingency funds required based on risk profile are held
- Potential increased time and expense required for administration the more regular the reviews (however it is expected this would be counter-balanced by the higher investment returns through more efficient use of capital)

The preferred option is 3 – Review contingency requirements regularly on an agreed schedule throughout the investment lifecycle, allowing contingency funds to be released as determined by the Investor or their delegated authority.

The Return process requires regular reviews of contingency requirements against the risk profile to identify any contingency allowances which have become surplus to Project, Delivery Agency, and Client/Investor requirements.

The review process will be supported by regular reporting for major projects.
Key Activities

The following key activities occur as part of the Return process:

► Manage release of surplus contingency funds back to the delegated authority
► As part of risk management, maintain Contingency Allocation Register with any new, residual or modified risks and contingency allowances following contingency release
► Escalate and manage Register updates via change control process as required
► Provide timely input to support governance monitoring and reporting

The refunding of contingency should align directly to changes within the risk profile, and only the amount deemed to be surplus based on the revised risk profile should be returned to the Investor or delegate.

The review of changes to contingency requirements based on changes to the risk profile should be performed and agreed to by the appropriate governance authority level. This ensures contingency requirements remain adequate in the event of a risk changing, and are overseen by the governance level best placed to manage such risks.

Example Investor Controls

There are a number of controls that the Investor (Treasury) undertakes as part of effective control during the Return phase:

<table>
<thead>
<tr>
<th>Key Investor Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Define and enforce criteria for triggering funds return or redistribution, in line with risk management policy and delegations of authority</td>
</tr>
<tr>
<td>2. Require INSW to review and report contingency funds returned and reallocated across the investment lifecycle</td>
</tr>
<tr>
<td>• Optimise conservatism on holding contingency against identified risks, administrative costs of contingency return process and the value gained from better utilisation of funds to develop the frequency of such reviews</td>
</tr>
</tbody>
</table>

Case Studies

To help demonstrate how contingency is returned effectively, we have included examples of good practices across both local (e.g. NSW, Australia) and/or global organisations:
The 2012 London Olympic Delivery Authority's approach to managing change (and associated return of contingency) was to require all proposed changes, regardless of size or scope, to go through a Change Control process.

The approach adopted by ODA required each proposed change to be reviewed and assessed to ensure only contingency funds required were released. This resulted in surplus contingency funds not required to be returned as appropriate throughout the delivery lifecycle. This enabled funds to be invested elsewhere, in turn optimising efficiency and contingency management performance.

"A strong governance structure is built around the process for allocating contingency which, combined with effective incentivisation at all levels, has instilled a culture of cost awareness and accountability. The achievement of cost and risk reductions at the delivery level frees contingency for reassignment within the programme, subject to justification and approval. Success in part has been driven by the clarity of decision making and commitment to ensuring that the sponsor was set up as an effective and properly empowered sponsor organisation."

Monitor

To enable effective contingency management, visibility and transparency of financial and risk information across the infrastructure programs is essential.

Objective

The objective of Monitor is to consistently and regularly review the performance and utilisation of contingency against the approved provision, to enable management action and risk mitigations as required.

The Monitor process of the contingency management framework involves comparing actual performance against baseline estimates, to identify variance and enable effective portfolio decision-making.

Transparent monitoring activities should be undertaken as part of governance and assurance activities across the Project, Delivery Agency, Client and Investor levels, and should not be a standalone or isolated initiative.

The Monitor process provides the guidelines for the ‘who’, ‘when’, ‘where’ and ‘how’, and is inherently linked to the Report process (which outlines the requirements for the data and communication format).

Options for monitoring Contingency

The potential options available to monitor contingency management performance across the investment lifecycle involve conducting reviews at varying frequencies across the Project, Delivery Agency, Client and Investor levels:

<table>
<thead>
<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review contingency performance and reassess requirements each time Spend or Return process occurs</td>
<td>➤ Up-to-date capture of information on current performance ➤ Highly transparent performance information</td>
<td>➤ High administrative effort at all governance levels ➤ Retrospective approach to contingency management as reviews only conducted after change to risk profile</td>
</tr>
</tbody>
</table>
The Preferred option is 2 - Regular and consistent reassessment of contingency requirements and performance throughout the investment lifecycle, providing assurance and confidence at all levels of governance and enabling proactive risk identification.

Reviewing performance of contingency management against initial baseline estimates is a means for early identification of potential and/or realised risks and issues, enabling effective response and optimising contingency performance across the portfolio.

The Monitor process involves the regular review of performance to identify any need for the implementation of change control processes. Contingency management reviews should include involvement from all levels of governance at the appropriate time (e.g. weekly at the Project level, monthly at the Program level and Quarterly at the Client level, annually at Investor level).

Key Activities

The following key activities occur as part of the Monitor process:

- Review and assess the effectiveness of contingency management practices across the lifecycle
- Review contingency performance against baseline estimates
- With reference to the Contingency Allocation Register, assess data quality and alignment with the portfolio/program/project risk profiles
- Review effectiveness of change control processes as they relate to contingency
- Identify and institute actions to improve contingency management.

Responsibilities for monitoring contingency performance against baseline estimates should be aligned with delegations of authority, such that monitoring activities are undertaken by the governance authority allocated contingency ownership.

Changes to the risk profile and/or variation between contingency management performance and baseline estimates should be identified at an early stage via the review process, and should be a trigger for appropriate change control processes.
Example Investor Controls

There are a number of controls that the Investor (Treasury) undertakes as part of effective control during the Monitor phase:

### Key Investor Controls

1. Approve criteria for benchmarking contingency management performance against baseline estimates across the State portfolio
2. Require INSW to undertake monthly reviews of contingency management for reporting to the CIC

### Case Studies

To help demonstrate how contingency is monitored effectively, we have included examples of good practices across both local (e.g. NSW, Australia) and/or global organisations:

#### Key Example: NSW Transport Projects Division (TPD) – Performance Monitoring

TPD perform 6 monthly Forecast Final Cost (FFC) estimates on all projects and programs, which includes a review of estimated contingency requirements.

The TPD model of conducting half yearly reviews of the FFC across all projects and programs ensures contingency management performance is regularly reviewed and that contingency requirements through project and/or program completion are forecast and regularly updated.

Regular reviews also allow any surplus contingency allowances to be identified and returned to the Investor, therefore enabling effective decision making and optimising investment across the portfolio.

Source: TfNSW, November 2013
The 2012 London Olympic Delivery Authority (ODA) undertook regular monthly and quarterly reviews of contingency performance to reassess contingency requirements against approved provisions and ensure ongoing risk identification was achieved.

The ODA performed monthly reviews of contingency performance as part of the Project Status Report (PSR) process, identifying changes to contingency elements including:

- Original Baseline Budget (OBB)
- Current Baseline Budget (CBB)
- Risks
- Anticipated Final Cost (AFC)
- Variance

Activities undertaken to monitor contingency management included regular monthly reviews highlighting the top 5 key risks under the PSR process, and Quarterly Progress Reports involving greater detailed examination of contingency performance. The ODA also completed bi-annual Quality Assurance (QA) reviews and an annual budget replanning process.

The monitoring approach adopted by the ODA ensured the regular disclosure of performance information and highlighting of key risk. More detailed reviews examined contingency performance at an individual work package level conducted on a less frequent basis (i.e. quarterly) to promote monitoring efficiency.

Source: EY
The objective of Reporting is to provide consistent and transparent disclosure of contingency management performance information across all levels of governance to enable optimal funds management across the portfolio.

The Reporting process of the contingency management framework provides details of contingency performance on a regular and consistent basis throughout the investment lifecycle.

### Options for reporting Contingency

The potential options available to report contingency management performance across the investment lifecycle involves different frequencies for disclosing information during the Monitoring process:

<table>
<thead>
<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
| 1. Prepare reports at each milestone or major change event disclosing all changes to risk and contingency since previous report | ► Reduced duplication of details captured on the Contingency Allocation Register  
 ► Includes triggers to report if significant risk and/or issue realised | ► Lacks transparency in disclosure of contingency performance  
 ► Potentially long periods between reports which may miss a Budget cycle |
| 2. Prepare reports at each Stage Gate review only, disclosing all changes to risk and contingency since previous report | ► Reduces duplication of details captured on the Contingency Allocation Register  
 ► Reduced administrative effort with report prepared as part of Stage Gate review | ► Lacks transparency in disclosure of contingency performance  
 ► Potentially long periods between reports which may miss a Budget cycle |
The Preferred option is 3 - Regular and consistently timed reporting of contingency management performance throughout the investment lifecycle to enable effective decision making across the portfolio.

The contingency management Reporting process requires involvement across all levels of governance; subsequently there are responsibilities required to be performed by each governance authority in a fit-for-purpose way.

**Key Activities**

The following key activities occur as part of the Report process:

- Prepare a reporting regime to support the governance program for contingency management practices across the lifecycle
- Provide visibility of contingency performance (versus baseline) at individual project, program and aggregated Agency level, as well as across the State-wide portfolio
- Demonstrate what proportion and magnitude of contingency was accounted for in the project/program/portfolio risk profile versus unique and unexpected event(s)
- Demonstrate what contingency is related to controlled changes
- Demonstrate how the contingency management practices translate into more effective investment decision-making (e.g. volume & % contingency returned for re-investment).

To capture and disclose full performance details, contingency performance should be reportable across each level of governance who has accountability for managing contingency allocation. Therefore reporting is to be aligned with delegations of authority, such that the governance authority assigned contingency ownership is responsible for reporting performance.
Example Investor Controls

There are a number of controls that the Investor (Treasury) undertakes as part of effective control during the Report phase:

Key Investor Controls

1. **Institute criteria for reporting contingency management performance across all governance levels. Examples include:**
   - Weekly Project Status Report (PSR) at Project level
   - Monthly Financial Report at Agency level, capturing relevant PSR information
   - Quarterly Progress Report at Client/Investor level, capturing relevant PSR and Financial Report information
   - Half yearly Forecast Final Cost review at Agency/Investor level

2. **Standardised reporting template for Client and Investor level reports to ensure consistency and transparency. Examples include:**
   - Original baseline budget estimate (ETC)
   - Current baseline budget estimate
   - Portfolio Risk Profile and corresponding Contingency Allocation
   - Forecast Final Cost (FFC)
   - Benchmarking across the Clients and Investor portfolio
   - Variance and trends throughout the project/program/portfolio lifecycle (e.g. proportion and magnitude of which contingent risks are realised; capital investment opportunities by optimising contingency allocation at portfolio-level).

Case Studies

To help demonstrate how contingency is reported effectively, we have included examples of good practices across both local (e.g. NSW, Australia) and/or global organisations:

Key Example: Health Infrastructure (HI) - Monthly Financial Report

Health Infrastructure outlines financial reporting requirements for all projects and/or programs in the “Cost Planning and Reporting Standards” practices guidelines.

The guidelines provide details of standard monthly reporting practices required to be completed, and the delegation of authority and responsibility of various parties for completing monthly reports.

Along with contingency performance, the HI Monthly Financial Report captures information including project budget status, funding sources, cashflow, and financial risks, and can be used as a base data source for PDC, PCG and ESC governance groups.

This approach ensures the regular and transparent disclosure of contingency performance across all levels of governance and to all stakeholders throughout the investment lifecycle.

**PDC = Project Planning and Development Committee; PCG = Project Control Group; ESC = Executive Steering Committee**

Source: Health Infrastructure, November 2013
The 2012 London Olympic Delivery Authority’s required Project Status Reports (PSR) be developed on a monthly basis to disclose information including contingency performance along with programme, risk and financial details.

The ODA utilised monthly PSR details as a ‘health check’ across the investment lifecycle, rolling information captured within the PSR into the Quarterly Progress Report, providing greater detail and increased transparency on project/program performance (including contingency).

The reporting approach adopted by the ODA provided effective and efficient disclosure of contingency performance across the lifecycle, whilst highlighting any areas where increased attention or focus was required.

(Source: Proceedings of ICE – May 2011)

Reporting contingency management performance across all governance levels provides consistent and transparent disclosure, enabling effective decision making across the portfolio.
# Appendix A  Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agency</strong></td>
<td>A defined Governance Authority with mandated responsibility from the State and / or Commonwealth Governments to implement Government Policy</td>
</tr>
<tr>
<td><strong>Allocate</strong></td>
<td>Assignment of contingency funds and associated risks to defined contingency owner</td>
</tr>
<tr>
<td><strong>Base Cost Estimate</strong></td>
<td>A Cost Estimate which includes direct costs, indirect costs, margin and client costs. It excludes allowances for inherent risks, contingency and escalation</td>
</tr>
<tr>
<td><strong>Calculate</strong></td>
<td>Quantification of contingency funds for each contingent risk identified</td>
</tr>
<tr>
<td><strong>Client</strong></td>
<td>The entity within a portfolio responsible for the development and prioritisation of the portfolio’s capital projects and programs, including the definition of Objectives and Scope, Statement of Service Need and management of associated portfolio-level risks. Ultimate owner of the completed asset.</td>
</tr>
<tr>
<td><strong>Contingency</strong></td>
<td>Contingency provisions are sums allocated within a budget or cost plan to cover the cost of unplanned activities or risks that are necessary to deliver project outcomes and require additional funds. Contingency is not intended for changes to project scope outside the business case for which the investment was approved.</td>
</tr>
<tr>
<td><strong>Contingency Allocation Register</strong></td>
<td>Centralised repository of all Contingent Risks, allocated allowance, ownership and revision history throughout the Portfolio lifecycle</td>
</tr>
<tr>
<td><strong>Contingency Allowance Release Request</strong></td>
<td>Formal submission to contingency owner detailing amount of contingency requested to be released, justification of how and why risk was realised, and status of risk post realisation</td>
</tr>
<tr>
<td><strong>Contingency Allowance Return Notice</strong></td>
<td>Notification to contingency owner detailing specific contingent risk(s) which have not been realised, justification as to why the risks are no longer current, and detail of the contingency funds to be returned to Investor</td>
</tr>
<tr>
<td><strong>Contingency Management Framework</strong></td>
<td>Guidelines on how contingency management is to be performed at project, program and portfolio levels across the investment lifecycle</td>
</tr>
<tr>
<td><strong>Contingency Owner</strong></td>
<td>Governance Authority responsible for the release or return of Contingency Allowance (or part thereof) throughout the Portfolio lifecycle, as per defined Roles and Responsibilities in the Contingency Allocation Register</td>
</tr>
<tr>
<td><strong>Contingent Risk</strong></td>
<td>Risks relating to unmeasured items i.e. those items not listed in the Base Estimate because they are unknown or loosely identified and they may not occur and thus may or may not contribute to the project costs.</td>
</tr>
<tr>
<td><strong>Contingent Risk – Portfolio Level</strong></td>
<td>Allocated Contingency Allowance to the Investor for Contingent Risks best managed by the Investor i.e. risks that impact multiple Agencies, has significant reputational impact, is above the risk threshold for Deliverer as defined by the Risk Governance Framework etc.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>Contingent Risk – Program Level</td>
<td>Allocated Contingency Allowance to the Deliverer for Contingent Risks best managed by Agency responsible for the Program i.e. risks that impact multiple Projects within the Agency, has no significant reputational impact, is below the risk threshold for Investor as defined by the Risk Governance Framework etc.</td>
</tr>
<tr>
<td>Contingent Risk – Project Level</td>
<td>Allocated Contingency Allowance to the Project for Contingent Risks best managed by Project i.e. risks that impact only the Project, has no significant reputational impact, is below the risk threshold for Deliverer as defined by the Risk Governance Framework etc.</td>
</tr>
<tr>
<td>Delivery Agency</td>
<td>Government Agency responsible for delivery of Project(s)/program(s) and management of program and project level risks.</td>
</tr>
<tr>
<td>Inherent Risk</td>
<td>Risks relating to measured items i.e. those items specifically identified in addition to the various components of the Base Cost Estimate and which will definitely contribute to total project costs but where there remains uncertainty as to the accuracy or reliability of the amount e.g. Escalation</td>
</tr>
<tr>
<td>Investor</td>
<td>The Treasurer as the Government Minister accountable for fiscal management and oversight of aggregate capital spending across government through the budget process, including the allocation of capital to and between clusters/agencies, the approval of the projects to be funded from within those allocations and management of the State-wide fiscal risks.</td>
</tr>
<tr>
<td>Monitor</td>
<td>Activities undertaken to review contingency management performance throughout the lifecycle</td>
</tr>
<tr>
<td>Performance Report</td>
<td>Regular reports produced as per defined schedule to disclose contingency management performance</td>
</tr>
<tr>
<td>Portfolio</td>
<td>A Portfolio is the totality of an organization’s investment (or a segment thereof) in the changes required to achieve the organization’s strategic objectives</td>
</tr>
<tr>
<td>Program</td>
<td>A Program is defined as a temporary, flexible organization created to coordinate, direct and oversee implementation of a set of related Projects and activities in order to deliver outcomes and benefits related to the strategic objectives</td>
</tr>
<tr>
<td>Project</td>
<td>A temporary team within a Delivery Agency or a separate special purpose organisation, which will deliver the project/program in accordance with a specific Business Case.</td>
</tr>
<tr>
<td>Release</td>
<td>Approval to spend Contingency Allowance</td>
</tr>
<tr>
<td>Report</td>
<td>Consistent disclosure of contingency management information to provide transparency across the lifecycle</td>
</tr>
<tr>
<td>Return</td>
<td>Refund of unutilised contingency funds for all unrealised risks to the Investor</td>
</tr>
<tr>
<td>Risk</td>
<td>Risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives such as scope, schedule, cost, and quality. A risk may have one or more causes and, if it occurs, it may have one or more impacts.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>Special / mega-project</td>
<td>Exceptional projects with unique risk profiles, which by their size and character make a significant impact in terms of governmental regulatory systems, labour markets, local political and social, financial, physical and natural environments and can materially affect the State’s fiscal position.</td>
</tr>
<tr>
<td>Spend</td>
<td>Controlled release of contingency funds based on realisation of associated risks</td>
</tr>
<tr>
<td>Stage Gate Review</td>
<td>Review undertaken at the end of each lifecycle phase to demonstrate how criteria required to move to next phase have been met</td>
</tr>
<tr>
<td>Stage Gate Review Report</td>
<td>Reports produced at each Stage Gate to reflect contingency management performance and demonstrate how criteria required to pass through Stage Gate have been met</td>
</tr>
</tbody>
</table>
Appendix B  Summary of Contingency Management Guidelines
<table>
<thead>
<tr>
<th>CM process</th>
<th>Calculate</th>
<th>Allocate</th>
<th>Spend</th>
<th>Return</th>
<th>Monitor</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>At a time of significant pressure on government budgets, it is essential that contingency is calculated appropriately - too much, and the program delivery could be compromised</td>
<td>NSW Treasury’s interest is that allocated capital budgets and contingency allowances are sufficient to cover the cost of completing approved works, so the Consolidated Fund is not put in a position of having to provide additional funding, whilst avoiding being unduly conservative in its approach.</td>
<td>The previous review found that a proportion of the sampled contingency spend either had insufficient data to support the contingency expenditure, or was for scope changes beyond the agreed brief. Greater visibility and controlled basis for contingency spend is therefore required to enable the most effective use of capital.</td>
<td>The purpose of the Return process is to recognise the time value of money and make effective use of all capital funds, whilst maintaining an acceptable risk position. The identification of surplus contingency funds needs to be transparent to enable effective investment decision-making.</td>
<td>To enable effective contingency management, visibility and transparency of financial and risk information across the infrastructure programs is essential.</td>
<td>To enable effective contingency management, visibility and transparency of financial and risk information across the infrastructure programs is essential.</td>
</tr>
<tr>
<td>Objective</td>
<td>Quantify appropriate contingency funds across the portfolio, based upon the assessed risk profile to enable accurate financial appraisal and control</td>
<td>Appropriately delegate control of contingency between Investor, Client, Delivery Agency and Project levels, to promote efficiency of capital and optimise cost management</td>
<td>Control the release of contingency funds, based on delegated authority, in the event that risks/events identified in the cost plan are realised to enable effective delivery</td>
<td>Control the release and reallocation of any surplus contingency funds to enable optimal use of available capital.</td>
<td>Consistently and regularly review the performance and utilisation of contingency against the approved provision, to enable management action and risk mitigations as required.</td>
<td>Provide consistent and transparent disclosure of contingency management performance information to enable optimal funds management across the portfolio</td>
</tr>
<tr>
<td>Key activities</td>
<td>► Review and optimisation of the portfolio risk profile  ► Conduct relevant contingency calculations (i.e. deterministic, probabilistic)  ► Undertake bench-marking  ► As part of ongoing risk management, re-calculate contingency as required</td>
<td>With reference to latest portfolio risk profile, identify any fiscal risk allocations from a State budget perspective  ► Approve contingency delegations and controls as part of the ERC decision to fund a project  ► Manage contingency funds per approved allocations  ► Regular reviews of the allocation process as part of ongoing risk management</td>
<td>Manage released of contingency funds according to approved allocations  ► Provide timely input to governance reporting  ► Release of surplus contingency funds back to the delegated authority  ► Provide timely input to governance reporting  ► Review and assess the effectiveness of contingency management practices  ► Review contingency performance vs baseline  ► Identify and institute actions to improve CM  ► Reporting regime to support the governance program for contingency management  ► Provide visibility of contingency performance (versus baseline) at individual project, program &amp; aggregated Agency level</td>
<td></td>
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</tr>
<tr>
<td>Investor Controls</td>
<td>► Review the fiscal risk profile across the total State capital forward estimates and identify and account for Investor-level risks on a quarterly basis  ► Require QA by INSW of the contingency calculations for major and mega projects at gateways &amp; throughout project lifecycle  ► Mandate inclusion of contingency ranges in detailed business case submissions  ► Require INSW to undertake benchmarking across the capital portfolio</td>
<td>Define governance levels for contingency allocation (including criteria under which the investor should hold a central contingency provision for State-wide fiscal risks) for approval at the Expenditure Review Committee (ERC) when budget approved for major projects.  ► Require INSW to perform aggregated risk analysis across clusters and the whole State portfolio</td>
<td>Ensure contingency funds across the State capital budget are released according to approved allocations  ► Approve reallocation of surplus contingency funds for other use  ► Define and enforce criteria for triggering funds return or redistribution in line with delegations of authority  ► Require INSW to perform aggregated risk analysis  ► Require INSW to undertake monthly review of contingency management for reporting to the Cabinet Infrastructure Committee (CIC).  ► Institute standardised reporting for contingency management performance to ensure transparency</td>
<td>Define criteria for benchmarking contingency performance across the State portfolio  ► Require INSW to review and report contingency funds reallocated.  ► Approve criteria for benchmarking contingency performance across the State portfolio  ► Require INSW to undertake monthly review of contingency management for reporting to the Cabinet Infrastructure Committee (CIC).</td>
<td></td>
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</tr>
<tr>
<td>Preferred option</td>
<td>Flexibility of approach in applying deterministic and/or probabilistic, depending on lifecycle stage and risk profile</td>
<td>Combination of allocation at Project/Delivery Agency AND Client/Investor levels where appropriate</td>
<td>Approval to spend contingency assigned to the appropriate governance role</td>
<td>Review contingency requirements regularly on an agreed schedule throughout the investment lifecycle</td>
<td>Regular and consistent reassessment of contingency requirements and performance throughout investment lifecycle</td>
<td>Regular, consistent reporting of CM throughout the investment lifecycle</td>
</tr>
<tr>
<td>Case studies</td>
<td>► Road &amp; Maritime Services  ► Health Infrastructure  ► Transport Projects Division (Victoria)</td>
<td>► Health Infrastructure  ► Regional Rail Link (Victoria)  ► Transport Projects Division</td>
<td>► Olympic Delivery Authority  ► Olympic Delivery Authority</td>
<td>► Olympic Delivery Authority  ► Olympic Delivery Authority</td>
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</table>

Contingency management – guidelines for optimising capital investment funding
February 2014