**Contingency Calculator**

**Guidance Notes**

This document provides guidance on the applicability of the contingency calculator and how to populate the contingency calculator. The contingency calculator is a tool to establish a percentage to be applied to the base costs to establish a contingency value for inclusion cost estimates.

Contingency is an allowance to cover the costs of unknown events or circumstances that cannot and have not been forecasted at the time the cost estimate was prepared.

**Applicability**

The contingency calculator shall be used when preparing cost estimates from Phases 1 to 5 of the NTA Project Life Cycle. If the NTA provides written approval, the calculator may be altered by amending works classifications, upper and lower bound contingency percentages, contributing factors, actions and weightings (which must have a cumulative total of 100%).

The contingency calculator provides a methodical, consistent and recognised approach in establishing an appropriate contingency allowance. The calculator includes a forecasting methodology based on the principles of “Reference Class Costing”, with reference to previous project performance. If a project demonstrates unique characteristics or there exists a unique set of circumstances (e.g. including but not limited to project scale, value or complexity), the requirement to use the contingency calculator may be relaxed subject to the prior written approval by the Director of Transport Planning, Investment and Taxi Regulation at the NTA. If a departure from the Cost Management Guidelines is requested, the Sponsoring Agency shall be required to justify its approach by providing alternative proposals regarding how contingency shall be calculated.

**The Process**

This section outlines a step-by-step approach of how to populate the contingency calculator in order to generate a contingency percentage to be applied to base costs;

*Step 1 – Project Title*

Enter the title of the project into the allocated cell.

*Step 2 – Project/Contract Code*

Enter the project/contract code of the project into the allocated cell.

*Step 3 – Select the Relevant Project Phase*

Select from the drop-down menu the specific NTA Project Phase in which the contingency calculation is being generated. The options are:

* Phase 1 – Scope and Purpose.
* Phase 2 – Concept Development and Option Selection.
* Phase 3 – Preliminary Design.
* Phase 4 – Statutory Processes.
* Phase 5 – Detailed Design and Procurement.

Selection of the project phase will determine upper and lower bound contingency percentages. These upper and lower bound percentages are based on a presumed knowledge/certainty of the project at each phase.

*Step 4 – Select the Project Work Classification*

Select from the drop-down menu the project Work Classification, either a ‘standard project’ or a ‘non-standard project’. The selection of the project Work Classification is also a contributing factor to the upper and lower bound contingency percentages.

For ease of distinction, a ‘non-standard’ project is one which is innovative, has mostly unique characteristics or involves a high degree of complexity and/or difficulty. They involve construction requiring special design considerations due to space constraints or unusual output specifications e.g. rail, urban road, utility projects or upgrade and extension projects.

A ‘standard project’ is one which involves construction not requiring special design considerations e.g. standard transport projects such as rural or sub-urban road construction.

*Step 5 – Consideration of Contributory Factors & Mitigation*

NTA has identified the contingency contributory factors, the associated mitigation actions and the weighting of each action. When preparing each cost estimate, mitigation percentages shall be adjusted using the buttons available to reflect the extent to which mitigation actions have been applied.

This process is interpretive as it requires the user to express judgement on the percentage of mitigation completed, compared with the amount of mitigation that can still be applied. NTA or an independent third party may audit/review the percentage mitigation applied.

As mitigation percentages are determined they are applied against the activity weighting to establish a weighted mitigation percentage.

*Step 6 – Mitigated Contingency Calculation*

In this step the mitigated contingency calculation is carried out to establish the percentage to be applied to the base costs to determine the contingency value. This calculation can be broken into three parts:

* Part 1 – Establish the difference between the upper and lower bound percentages, essentially the maximum and minimum contingency percentages.
* Part 2 – Apply the cumulative weighted percentage (from Step 5) to the difference between the upper and lower bound percentages (Step 6, Part 1) to establish the mitigation value.
* Part 3 – Deduct the mitigation value (Step 6, Part 2) from the upper bound percentage to establish the contingency percentage.

The calculation is automated in the Contingency Calculator. This is an explanatory note only.

*Step 7 – Application of the Contingency Percentage*

The capital costs of the project (excluding land) should be multiplied by the contingency percentage to establish the contingency value to be incorporated into each cost estimate. Each cost estimating template includes a section into which the user should insert the project contingency percentage and value.

Note: Land and property costs should and will be deemed to include contingency.

Note: The default position in the Cost Management Guidelines is to apply contingency to all costs (excluding land), including risk. However, if a thorough and robust risk assessment has been undertaken the Sponsoring Agency may not be required to apply contingency to risk. It is anticipated that this principle will be agreed with the NTA in advance of the Sponsoring Agency submitting the respective cost estimate.