



## White Paper 2014-09

### How to Manage Properly Your Project Contingency Throughout Project Execution

*Setting up a contingency element as part of the project cost is nowadays a common practice in project management. It can be derived by various methods including advanced statistical (Monte Carlo) methods. However, because it is so intrinsically linked to profit recognition, the contingency element is not always properly managed throughout project execution, leading to unpleasant surprises for the organization. This paper exposes good practices and some typical shortcomings that are commonly observed.*

#### Introduction on the concept of Contingency and its importance

Contingency is a unique cost element that is added to the project base cost to cater for uncertainties. It is much more effective to cost a project based on likely costs and add a single contingency element than pad every cost estimate – which would result in a very uncompetitive costing. That is why most project organizations compute a single contingency element, which then needs to be managed throughout the project until reaching a zero value at completion (where there is no remaining uncertainty). Contingency is key for management because any partial release will directly influence the project's profit recognition. It is therefore of foremost important to be prudent and follow certain rules when it comes to recognizing that some of the contingency can be released.

**Release of contingency by senior management should only be the result of an appreciation on the residual risk of the project moving forward, not on the poor estimate of past costs**

#### How the Contingency is calculated

Contingency is a very particular cost element. Contingency is reforecast using the relevant project risk management process. This tricky cost element attracts a lot of attention from management, so that the contingency update needs to be supported by a clear and shared risk management process.

In the project industry there are typically two approaches to contingency evaluation

- A simple approach where opportunities & risks are listed; their impact is estimated, as well as their probability. The contingency is then the sum of the risk impacts weighted by their probability;
- A more complicated approach using a Monte Carlo simulation on the basis of a simplified cost model of the project, with the uncertainties indicated for each high level budget element, and added to the contribution of specific discrete events.

The update of the contingency needs to be done on the basis of the same approved process, taking into account the progress of the project:

- Events which have now occurred should not have any uncertainty element in the contingency model,
- Uncertainty on the other elements should be re-evaluated,
- New risks or opportunities should be introduced as required based on the latest knowledge of the project team.

Notwithstanding the process chosen to determine contingency, it should generally decrease as the project progresses, because it addresses future risks. As the related activities happen, the risks materialize or not, but in any case they disappear from the contingency. When using the

Monte Carlo based method, contingency calculation is done on the basis of the Estimate to Complete, and this basis naturally decreases as project progresses.

#### Contingency Ownership and Release Strategy

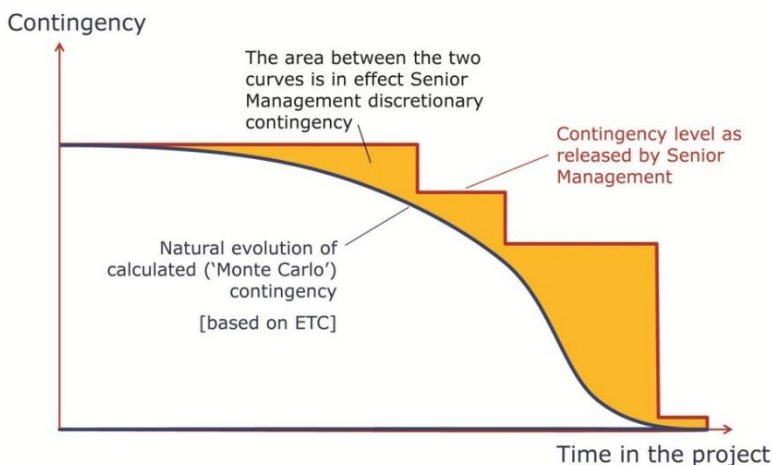
Contingency is normally owned not by the Project Manager but by its management; and it plays a significant role in the provisions that are authorized accounting-wise at the company level, thus significantly influencing the company's financial result by pushing profit recognition in the future.

**At any time it is not permissible to release contingency below the calculated contingency as per the organization's approved process.**

Changes to the contingency can significantly affect both the project result and the organization's financial result, on a short term basis.

The established practice is to recalculate project contingency at least every quarter for long projects, and more often on smaller projects. As mentioned above, the calculated contingency diminishes with the project progress. However for different reasons, senior management might not want to release the contingency down to the level that has been calculated by the project. There is often an element of “discretionary contingency” that remains to cover areas such as client/supplier relationship/behaviour issues, differences in judgment, other broader organizational/Portfolio issues, etc. The evidence supporting the contingency needs to be objective and verifiable, not based on management’s “feel” for the situation or on unsupported representations. Anyway, this tends to increase the prudence on the contingency element. The figure shows this effect (in the usual case of a project where a significant part of the cost and risk is towards the end, in the construction phase).

Cost Control has little influence on the contingency component as it is in the hands of senior management, except to point out situations where the calculated contingency is significantly lower than the contingency retained by senior management, requiring a release. Releases of contingency will be accompanied by significant changes to the Estimate At Completion project margin.

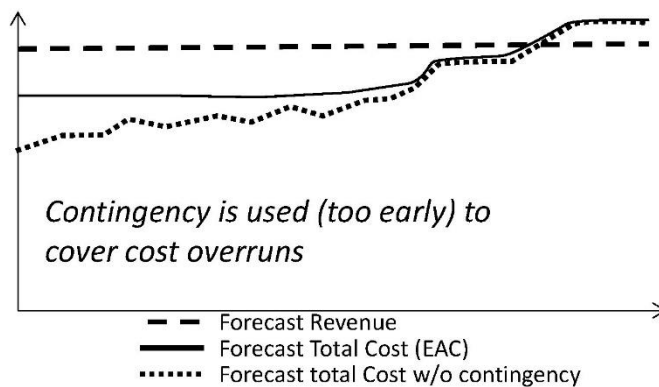


**Common traps when it comes to contingency release**

It is not a recommended practice to release contingency to compensate for higher costs compared to the budget. Contingency should only be used to compensate for exceptional events that are external and beyond the normal control of the Project Manager. Beyond those exceptional events, release of contingency by senior management should only be the result of an appreciation on the residual risk of the project moving forward, not on the poor estimate of costs that have already been committed or spent. Unfortunately we observe that it is

often a too strong temptation to pull money from the contingency to compensate for additional costs. If the organization is not careful this might lead to uncomfortable situations where the project might be naked, i.e. have a too low contingency to effectively be able to cover for foreseeable risks. A typical example is given here:

At any time it is not permissible to release contingency



below the calculated contingency as per the organization’s approved process. Should this happen by oversight, it should be immediately highlighted by the Project Manager. The organization’s risk management framework will have been approved by financial auditors and should not be tampered with. This would create significant compliance risks for the organization.

**Conclusion**

Contingency management during project execution is a key strategic issue because it impacts directly the short term performance of the project. Sometimes the temptation to recognize contingency prematurely is simply too high. Project Managers and organizations must enforce the necessary discipline, or the project might find itself in a difficult situation later on. Proper processes and discipline are essential to avoid surprises in that respect.



**Find all these principles of Project Cost Control exposed in a comprehensive manner in our Handbook (2<sup>nd</sup> edition), [Practical Project Cost Control for Project Managers](#)**

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