

Annex 2 – Risk Guidance

Science Programme Office Project Management Guidance on Risk Management

Introduction

Risk is any action or event that affects a project's ability to achieve its objectives. Risks can be seen as a threat to the success of a project because they have a negative impact on cost, schedule and technical performance. However, with appropriate procedures, risks can be managed and in so doing, present new opportunities with a positive impact. It is as much concerned with good things not happening as bad things happening.

The objective of risk management is to identify, assess, reduce, accept and control risk in a systematic and proactive way, while at the same time taking into account the project's technical and programmatic constraints (e.g. costs, timescales, and specification).

To achieve this, risk needs to be captured effectively so that appropriate management attention can be directed to the essential issues. The various stakeholders can then agree on the best course of action for mitigating the risk. This approach underpins the key objective of risk management.

Basic Principles and Process

STFC's risk management policy requires well structured information about the nature of risk so that the information can facilitate communication and the management decision making process. Certain activities must be implemented as part of a risk management plan and risk management must be seen as part of the normal project management structure and internal reporting within the STFC's Science Programme Office (SPO) through its project assurance process.

An outline of the steps used in the risk management process is shown below. Generally trade-offs are made among the different, and often competing, project goals. Undesired events are assessed for severity/impact and likelihood. In the assessment of mitigating risk and devising an action plan, risk is considered tradable against known project resources within the management (e.g. cost and schedule) and technical domains (e.g. specification). Key steps comprise:

- Identifying the full spectrum of potential risks through appropriate techniques (e.g. engineering analysis, project team meetings etc)
- Analysing and assessing the risks to determine the most serious and rank them through a risk index scheme (see below)
- Capturing and tracking risks on a standard risk register. This should distinguish between inherent and residual risk. The former is the risk present before taking any mitigation action, while the latter is what remains after mitigation
- Devising action plans to mitigate risks either by avoiding the risk, transferring the risk, reducing the probability/impact or accepting the risk.
 - This step will require an understanding of the cost and schedule impact of the risk as part of determining an appropriate level of working margin and contingency. Some types of risk lend themselves to a numerical diagnosis – particularly financial or technical risk. For other risks - for example reputational risk - a more subjective view is all that is possible.
- Implementing action and control plans and taking appropriate actions when unforeseen risks occur. This will include monitoring, communicating and accepting risks as well as alerting the management team of new risks

Suggested Risk Index Scheme

A risk index scheme should be used to score or measure the magnitude of the each risk scenario. It is a combination of the likelihood of occurrence and the impact or severity of the consequence of the risk materialising. Scores are used to measure the likelihood and impact.

It is important that periodic assessment and review of all identified risks and up-dating of results takes place as part of the project management reporting. For this reason, risks should be captured and tracked using a Risk Register (suggested template attached below).

Likelihood

Risk Index: Combination of Impact and Likelihood

0.8-1.0	Medium	Medium	High	High	High	
0.6-0.8	Low	Medium	Medium	High	High	
0.4-0.6	Low	Low	Medium	Medium	High	
0.2-0.4	Low	Low	Low	Medium	Medium	
0.0-0.2	Low	Low	Low	Low	Medium	
	0-20	21-40	41-60	61-80	81-100	Impact

Risk index	Risk severity or magnitude	Proposed actions
50 - 100	High risk	Unacceptable risk: implement new mitigation process or change baseline (e.g. de-scope, re-schedule) – seek high level project management intervention as defined in the risk management plan.
25 – 50	Medium risk	Unacceptable risk: actively manage, consider alternative mitigation process or baseline (e.g. de-scope) – seek attention at appropriate management level as defined in the risk management plan.
0 – 25	Low risk	Acceptable risk: control, monitor – seek responsible work package management attention.

NB. For further information please contact the relevant SPO programme manager.

RISK REGISTER

Total risk is product of
Likelihood and Impact

0 - 25	low
25 - 50	medium
50 - 100	high

Ref.	Risk Description	Potential impact on project	Owner	Inherent Risk			Existing Controls	Current/ Proposed mitigation	Residual	
				Likelihood	Impact	Total			Likelihood	Imp
						0				
						0				
						0				
						0				
						0				
						0				
						0				
						0				

Notes

Likelihood scale of 0.1 to 1 where 0.1 is low.
Impact scale of 1 -100 where 1 is low.