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1.0 Project Risk Management

The Project Risk Management Plan applies to and guides the risk management work performed on Projects, including the Project Leadership Team and Sub-teams. Team and Sub-Team Leads of each discipline are accountable to continuously identify and manage risks according to the principles, process, and methods of the Risk Management Plan.

The process enables stakeholders to focus on areas most at risk by identifying risks exerting the greatest positive or negative influence on achievement of Project objectives.

Figure 1: Risk Management Roadmap

Project Risk Management deliverables are required for each phase of a project from Identify & Assess up through start-up and handover to operations. The key deliverables for all phases are:

- A Risk Management Plan that documents:
  - Ongoing process of identification, review and (re)assessment of risks relative to project & opportunity objectives,
  - Roles and responsibilities that enable risk management,
  - How risks will be managed, and
  - How and when risks will be reviewed, reported and communicated.
- A Risk Register that records project risks; their owners, their assessments (Current- and After Actions Assessment), action plans and required response timing.

Risk assessment in turn requires:

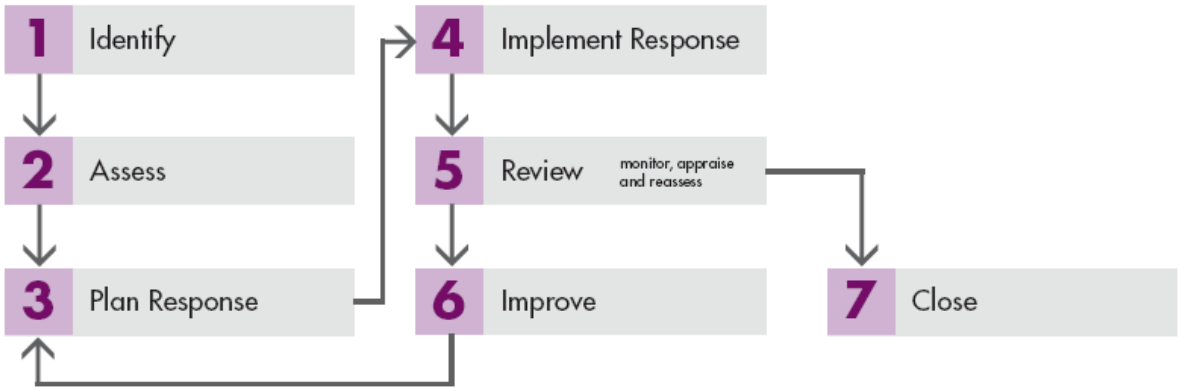
- Agreed RAM scales for Probability and Impact by Consequence, that define the project risk acceptance thresholds.
-

As part of assurance, the project team must also be able to demonstrate that:

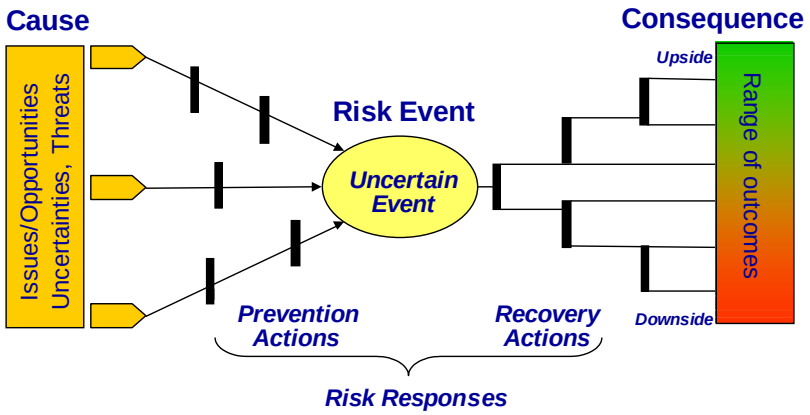
- The Risk Register is being regularly reviewed and updated, and the risk environment and the effectiveness of actions taken to manage identified risks are being evaluated on an ongoing basis, and
- The risks in the Risk Register are reflected appropriately in the project cost estimates and schedules, including mitigation and Opportunity Cost and schedule impacts.

The Project Manager is responsible for the development of the Risk Management Plan (including the RAM) and the Risk Register. These deliverables are owned by the Business Opportunity Manager (BOM), with formal support of the Project Finance Manager (PFM) prior to formal approval by the Decision Executive (DE). Note: if a PFM is not in place the Finance Lead for the opportunity will have these accountabilities.

The Risk Management Process follows the steps as illustrated and described below.



A good risk formulation facilitates the response plan both by addressing the causes (prevention actions) and setting recovery actions in case the risk event occurs.



A clear description ensures that others who read it understand the intent and context of the risk. It also makes assessment easier.

The risk must also be stated at the correct level of detail – neither too high level / conceptual nor too detailed - to allow comparison with other risks in the register, and to allow effective response plans to be created.

1.1 Project Risk Management Objectives

- Risk Management is an integral part of Project Management.
- The purpose of Risk Management is to identify/assess risks, develop prevention and recovery/ enhancement actions and to manage the planned actions.
- All teams identify risks, track actions, and monitor progress on risks and mitigations on a regular, periodic basis.
- A summary of the Project Top risks will be reported to the leadership teams monthly during the progress review meetings.
- The whole team works in an integrated and coordinated fashion to identify all possible risks and develop mitigations.

Risk Management is a part of project excellence. Risk Management should be live and involves re-examining existing risks; identifying new risks; ensuring prevention / recovery / enhancement actions are in place and are the best possible.

1.2 Project Risk management Principles

The basic principles, underpinning all Risk Management related activities:

- The purpose of Risk Management is to identify/assess risks, develop prevention and recovery/ enhancement actions and to manage the planned actions.
- All teams identify risks, track actions, and monitor progress on risks and mitigations on a regular, periodic basis.
- The whole team works in an integrated and coordinated fashion to identify all possible risks and develop mitigations.
- Teams include the Risk Coordinator as a member of their risk work group.
- Risk Management is an integral part of Project Management and part of the project scorecard.

Risk Management is a part of project excellence and is required by Shell Group Capital Project Standards. The work of Risk Management: includes re-examining existing risks; identifying new risks; ensuring prevention/recovery/enhancement actions are in place and the best possible; is ongoing and integrated into all work across the Project.

1.3 Project Risk Assessment Matrix

Each Project will have individual assessment of Probability and Impact of Risk based on the Risk profile associated with individual Project.

STANDARD RISK ASSESSMENT MATRIX

		PROJECT OBJECTIVES									PROBABILITY				
											1	2	3	4	5
		Cost / Benefit	Schedule	Production	Ultimate Recovery	HSSE	Legal	Financing	Reputation	Relationships	0-5%	5-20%	20-50%	50-80%	80-100%
IMPACT	5	>$50 million	> 6 months	> 15.0 kboe / day	> 10 million barrels of oil equivalent	Multiple fatalities (or PTD's); Major epidemic; Massive effect	Major legal exposure with potential to result in major impact on the company	Financing terms not acceptable. Credit standing of parties involved not acceptable	Regional or International impact	Breakdown in high-level relationships				> 25 mln USD	
	4	$25 - 50 million	< 6 months	7.5 - 15.0 kboe / day	5 - 10 million barrels of oil equivalent	1 to 3 fatalities (or PTD's); Many people's health affected; Major effect	Significant legal exposure present with potential material impact on the company	Debt terms impact Group targets. Credit standing parties involved require guarantees	Sizeable impact on national level, or Limited impact on International or Regional level	Significant problems in high-level relationships				10 - 25 mln USD	
	3	$10 - 25 million	< 3 months	2.5 - 7.5 kboe / day	2 - 5 million barrels of oil equivalent	Major effect on a person; Minor effect on several people; Localised effect	Gaps in knowledge and/or controls over minor aspects of law	Debt terms have minor impact on Group targets. Credit standing parties involved questionable	Sizeable impact on local level, or Limited impact on national level	Differences in high level relationships or breakdown of minor level relationships			2 - 10 mln USD		
	2	$5 - 10 million	< 1 month	1.0 - 2.5 kboe / day	1 - 2 million barrels of oil equivalent	Minor effect on a person; Slight effect on several people; Minor Effect	Reasonable knowledge - intention to be legally correct	Minor credit, fund availability and/or debt terms issues.	Limited impact	Significant differences with minor level relationships which can be overcome	0 - 2 mln USD				
	1	<$5 million	< 0.5 months	< 1.0 kboe / day	< 1 million barrels of oil equivalent	Slight effect	Confident in knowledge of law no dispute likely	Minor credit, fund availability and/or debt terms issues (normal work)	Slight impact	Mutually supportive with minor differences					

An adequate risk response plan requires the definition of the response strategy, whether to Take, Treat, Transfer and /or Terminate the risk.

Take	Accept the risk as estimated and proceed as planned.
Treat	Risk per se is acceptable, but current risk severity is not. Put in place appropriate response plans to manage the risk and maximize value.
Transfer	Current risk severity is not acceptable, and it is commercially more attractive to transfer/ share the risk-taking with others who can better manage it.
Terminate	Risk critical to success/ unacceptable. Risks can be avoided by ceasing a particular activity (e.g. stop all further work as an ultimate consequence), or withdraw from a country or market.

Response actions must also be SMART (Specific, Measurable, Aligned, Realistic, Time bound) with due regard for impact (negative and positive) and likelihood, adopting the As Low As Reasonably Practicable (ALARP) principle where appropriate.

Accountability for decisions about and responsibilities for implementing response actions must be clearly allocated to parties within the project team and captured in, and operationalized with the project's risk register. Actions must reduce the probability of occurrence and/or the potential impact of a risk before the risk event occurs (Prevention Actions).

Recovery Actions are taken after the risk event has occurred to reduce the impact of a threat (Downside Risk). The cost of actions that reduce the probability and/or the impact prior to the risk event occurring must be weighed against the cost of recovery.

For opportunities (Upside Risks), actions must increase the probability of occurrence and/or the (beneficial) impact.

Risks could be split into two categories: risks associated with the successful delivery of Final Investment Decision (FID) (i.e. Pre-FID risk) and risks associated with the Execution and Operation stages of the project, since the focus of the risk responses pre / post FID are significantly different.

Changing business conditions and decisions made while running a project will continuously alter the risk profile of that project. This means it is critically important to maintain open communication on project risks and have continued awareness of which risks are significant.

Project teams need to regularly (as a minimum quarterly) reassess risks and risk severity to ensure they are up-to-date, and the assessment should be adjusted as appropriate.

2.0 HSSE Risks Integration in the Overall Project Risk Registers

For visibility of risk, hazards identified within the various project hazard registers with risk falling within the yellow 5A, 5B and red regions of the Risk Assessment Matrix (RAM) will be discussed in the Project Risk workshop for possible inclusion in the overall project risk register. Such Hazards are defined as Major Accident Hazards (MAH).

Key criteria for the transfer of MAH into Project Risk Register are the likelihood of impact on:

- Project schedule
- Cost
- Relationship with stakeholders (e.g. community, third parties, etc.)

Any HSE MAH that satisfies any of the above criteria will be captured in the Project Risk Register and monitored with the Project HSSE Authorised Person as the action owner.

3.0 Project Risk Chart of Authority

There is a strong link between decision-making and project risk management. For clarity and consistency in communication, prioritization and decision-making, risk severity thresholds are mapped against the project organization as follows:

Table 1 Risk severity – Chart of authority

Risk Severity	Agree / Endorse	Review/Report Progress
Top Risk	Decision Executive	Progress typically reported during Quarterly Decision Review Board session. Monitored by Project Finance Manager. Escalated to appropriate Line Of Sight.
Critical	Project Manager	Monthly review. Monitored by Project Manager. Escalated to appropriate Line Of Sight.
Severe	Project Manager	Monthly review. Monitored by Project Finance Manager.
Material	Discipline Lead	Monthly review to assess progress on mitigation.
Small	Sub Discipline Lead	Monthly review to assess progress on mitigation.

4.0 Planned Project Risk Management Activities

Risk management is a standing agenda item in the regular Project Leadership Team meetings or other similar project meetings. Typical focus are top risks, mitigation issues / progress, or ad-hoc KPI's that could help focus the team to integrate risk management as a natural part of the project work stream(s).

There are several risk management process related activities concerned with maintaining the project risk management process.

The following key events are planned during project execution:

- Monthly Risk Management Workshops
- Biannual Cost Schedule Risk Analysis (CSRA) Workshops
- Continuous interviews with risk and action owners incl. ad-hoc information flow

It is mandatory that the key planned project risk management events are communicated and incorporated into:

- The project calendar through the Project Coordinator or person with equivalent mandate.
- The integrated project plan as maintained in the planning tool by Lead Planner.

5.0 Integrated Project Risk register

The integrated project risk register shall contain all relevant risks to the project objectives, including a reflection of key HSSE & SP risk. Non-Technical Risks shall be maintained as part of the integrated risk profile.

The main purpose to maintain an integrated risk register is to improve visibility, line of sight, and clearly depict the inter-dependencies of the risk management process.

HSSE risks is normally managed through the Hazard and Effects Management Process (HEMP) process, different to the project risk management process, and this should not change, if not specifically agreed in the Project.

Project Risk Coordinator assigns personnel, determine role in risk management process, and allocate personnel as appropriate in the Organisational breakdown structure appropriate for the risk management process.

The Project Risk Coordinator administers the risk register on behalf of all project participants. Risk/Action Owners engagement means that the risk register keeps pace with the project progress; changes focus alongside the project; has the best possible definition; up to date mitigation progress status; and most important, maintain accountabilities with the respective owners.

Project Risk Coordinator evaluates the risk management process; provide insight/support to Project Manager on areas of improvement/focus; scan the risk register for cause and effect; identify risk; provide training to project team in using risk management tools, is in charge of CSRA's.

6.0 Collaboration / Interface with Other Related Functions / Processes

All functions, in addition to the main project team, mentioned below shall be invited for any key risk event.

Table 2: Overview of key risk process related functions and collaboration scope

Function	Scope
Project Personnel	All Project Personnel are encouraged to identify and propose risks/mitigations. They are also to fulfil the role of Risk and/or Action Owner when so assigned.
Project Functions	Normal day-to-day risk management activity, including participation in risk reviews.
Project Services	Ensure close collaboration during preparation & execution of CSRA's. Risk Coordinator should seek to demonstrate active evidence-based engagement.
HSSE	Align and assure that appropriate HSSE risks are incorporated into the integrated project risk register and reported through the standard risk reporting cycles.
Social Performance (SP)	Ensure that the wider SP related risks for the project are properly identified, assessed and managed as an integral part of the integrated project risk register.
Quality	Ensure that quality related risks & mitigations identified in the quality assurance p8rocess are integrated in the project risk register by the Quality responsible person. Seek to ensure that the Quality Lead consult the integrated risk register prior establishing: - The risk-based Quality Plan - Audit & Verification and Assurance Plans
Finance	Align and jointly agree key project risk across the Technical, Economic, Commercial, Operational and Socio-Political spectrum for reporting purposes on the Business Risk Visual.
Contracting & Procurement (C&P)	Ensure that C&P related risks for the project are properly identified, assessed and managed as an integral part of the integrated project risk register. Ensure Risk Engineer/Managers attendance at C&P Strategy & Tactics workshops, with the objective to support the contract risk assessment. Subsequently seek to ensure residual Contract risks are included while forming the initial basis for the integrated project risk register.
Contractors/Sub-Contractors	Take input from Contractors Risk Register and Cross-communicate relevant risk and mitigation actions back to contractor. Review and challenge Contractor's risk reporting as per Contract. Normally it would be expected that the main Contractor manage their sub-contractors as per the pre-scribed risk management process. Realizing that there may be situations calling for further engagement with sub-contractors, using both formal and in-formal channels to substantiate and further strengthen the projects line of sight.
Management of Change	Seek to ensure that mitigation proposals to top and substantial risk are assessed and approved in the change panel board prior progression. Subsequently align with planning and cost teams to ensure a joint view of mitigation progress. Ensure that the outcome of the change panel board reviews are reflected in the risk register (including re-evaluation of risk severity levels/status based on approved changes).
Joint Venture Partners	All Joint Venture Partners are encouraged to identify and propose risks/mitigations. They are also encouraged to challenge Risks & Mitigations identified and contained in the Risk Register.

7.0 Project Risk Management Breakdown Structure / Organizational Breakdown Structure

The Project aims to structure its Risk Register aligning to the best degree possible with the main Project work streams / work breakdown structure. The main purpose is to organise risk information across disciplines but also to suit roles and responsibilities of the Project Leadership Team.

Table 3: Organizational Breakdown Structure

Position	Roles & Responsibilities
Business Opportunity Manager	1. Sets project objectives. 2. Endorses the Risk Management Plan. 3. Endorses the project RAM. 4. Approves resources for risk management system. 5. Agrees risk responses for risks at his Authority Level and approves resources. 6. Escalates Top Risks to appropriate Line-of-Sight. 7. Uses risk information in decision making.
Project Manager	1. Champions the risk management system. 2. Approves the Risk Management Plan. 3. Approves the project's RAM. 4. Agrees risk responses for risks at his Authority Level and approves resources. 5. Escalates risks beyond his authority to the Business Opportunity Manager 6. Uses risk information in decision making.
Risk Coordinator/Focal Point	1. Writes the Risk Management Plan. 2. Creates and maintains the Risk Register and ensures overall quality. 3. Initiates the RAM and ensures approval by the Project Leadership. 4. Ensures that all risks have an assigned owner. 5. Trains and supports the Leadership Team, and Risk and Action Owners. 6. Generates reports from the risk register to keep the Leadership Team informed about progress made with respect to the execution of actions as listed in the Risk Register. 7. Plans & facilitates events required by the risk management process. 8. Interfaces with Cost & Planning Engineers for deterministic and probabilistic contingency development. 9. Ensures all team members are aware of, and can apply, the project's risk management process.
Risk Owner	1. Ensures that their risks have a clear, meaningful Title, and Description. 2. Provides a clear Audit Trail for updates.

	3. Ensures that their risks are properly assessed (before & after mitigations) using the project RAM, and that the assessment is endorsed at the appropriate level. 4. Ensures that appropriate risk responses are in place and coordinates their implementation. 5. Communicates risks and responses to those who need to know "what" and "how". 6. Monitors and appraises effectiveness of risk responses with a view to improve. 7. Responds to feedback from response users and implements improvements accordingly. 8. Regularly reviews the risk severity level and appropriateness of risk responses related to the risks for which they are responsible.
Action Owner	1. Creates action plan (including delivery dates) and agrees with Risk Owner. 2. Provides regular progress updates to Risk Owner. 3. Notifies Risk Owner when actions are Complete.
Team Members	1. Familiar with the risks and responses which may impact their work. 2. Continuously identify risks which may jeopardize the achievement of project objectives; enter these risks into the risk register. 3. Participates in actions related to the development or improvement of risk responses. 4. Implements and applies risk responses as intended. 5. Provides feedback to Risk Owners if risk responses are found to be ineffective and / or inefficient, with constructive suggestions on how to improve.
Cost & Schedule Risk Analysis Specialist	1. Prepares CSRA Plan, to be approved by Project Manager. 1. Checks Baseline Documents for consistency; ensures both Latest Project Schedule and Estimate At Completion for Cost have equivalent basis and assumptions. 2. Reviews & validates the Schedule Risk Model. 3. Reviews & validates the Cost Risk Model. 4. Identifies initial Cost & Schedule risks & uncertainties. 5. Selects participants for Cost & Schedule specific risk identification & quantification workshops; facilitates the workshops. 6. Matches impact estimates with a probability distribution; reviews & agrees assigned impact estimates & probabilities of occurrence. 7. Reviews & validates the Schedule Risk Model in Schedule Risk Analysis (SRA)tool

	8. Reviews & validates the Cost Risk Model in Cost Risk Analysis (CRA) tool 9. Reviews realism of simulation & results. 10. Presents initial findings for review & validation by project team management. 11. Prepares Project Risk Analysis Report; issues to Project Manager and Project Finance Manager. 12. Ensures Risk Register is updated.

8.0 Project Risk Reporting & Communication

Table 4: Reporting Overview

Report	Frequency	Scope	Responsible	Customer
Standard Project Report – Risk Section	Monthly	Consolidation of top project risks	Project Risk Coordinator	Project Manager
CSRA reporting	SRA: 6-12 months intervals / ad-hoc.	As per Project Guide definition.	Project Risk Coordinator	Project Manager
Risk Register	On Demand	List of Project Risk and Actions	Project Risk Coordinator	Project Manager, Project Team

9.0 Project Top Risks - Definition

Top Risks are typically the highest-ranking risks (upside & downside) from various work streams and sub project areas as reviewed by leadership (Hotspots may also be used as terminology). However, the Top Risk list may also include other risks that are not necessarily "red"/ critical risks but those that still may have a significant impact on the project objectives or are of immediate interest due to other factors such as:

- Proximity in time to certain key project decisions
- Urgency (in relation to when risk responses need to be implemented)
- Interdependencies with other risks
- Controllability/Manageability (degree to which risk outcome can be influenced)

The list of Top Risk will be reviewed on a regular basis and can change based on the discretion of the Leadership Team.

A risk on an existing Top Risk list may "drop out" of the top risk focus even though the risk is still being managed, i.e. not closed. In effect the risk should still be managed in the Project but just not reported out as a top risk.

The Top Risk list is in essence a sub-set of risks out of the total risks within the register that require more management attention and as such some effort should be taken to ensure the number of Top Risks are kept at a manageable level.

10.0 Escalation and Aggregation

The Project Risk Coordinator shall always seek/analyse for risk commonalities across the risk register with a potential for clustering and aggregation into a wider risk theme when consolidated may have a significant severity. Results from such qualitative analysis shall be communicated and proposed to Project Manager for consideration in line with the continuous follow-up cycle. Such proposals should formally be communicated through the standard Risk Report.

The Project Risk Coordinator supports the Project Manager to formally escalate individual risks, Red / Amber risks, to the appropriate Line of Sight.

11.0 Risk closure

An important aspect of the project risk management process is to build good knowledge / experience. Therefore, closure of risk and associated actions need to be properly addressed and fed-back to the corporate memory, including assuring proper follow-up through other relevant project processes. Any risk or action recorded in risk register moving into closed status shall have a proper close-out statement in the audit trail, clearly stating reasons for closure.

Risk severity and close-out process in relation to roles and responsibilities is mapped as follows:

Closure Process	Green	Yellow	Amber	Red	Risk/Action Status
Closure Proposal	Risk/Action Owner	Risk/Action Owner	Risk/Action Owner	Risk/Action Owner	[Approved, Taken]
Recommendation	n/a	n/a	Risk Engineer	Risk Engineer	[Approved, Taken]
Inform / Review / Approval	Risk Engineer	Risk Engineer	Discipline Lead	Project Leadership Team	[Approved, Taken]
Closure	Risk/Action Owner	Risk/Action Owner	Risk/Action Owner	Risk/Action Owner	[Closed]

A risk/action may be closed due to a number of reasons:

- Closed due to: Time window of eventuation has passed (zero probability of occurrence/impact remaining)

- Closed due to: Rejected proposal (idea/proposal not Approved by Project, i.e. moving directly from Proposed -> Closed)

- Closed due to: Replication (Covered by other recorded or otherwise over-riding/over taking risks/actions)
- Closed due to: Other reasons (e.g. Fully Managed)
- Closed due to: Occurrence (Assigned to a risk if it occurs, i.e. a risk eventuated and impacted project objectives. Risk Coordinator should to the best degree possible seek to understand and record cause and effect and commit to lessons learned (including interrogation of monetary / time impacts).

12.0 KPIs & Assessing the Risk Management System

The Key Performance Indicators (KPIs) are the metrics for effective risk management. Setting, agreeing, and endorsing these KPI's within the Risk Management Plan enables the team to reflect on what is important for the opportunity and how this can be measured. The KPI's need to be easily generated and updated and can be used to evaluate the effectiveness of the Risk Management System.

Some examples of KPI's:

- Number of due and overdue risks based on review dates.
- Number of due and overdue actions based on Planned Finish Dates.
- Quantify risk register activity by number of risks: proposed, added, passed completion date, closed.
- Demonstrable linkage between risks in the risk register and quantitative risk analysis.
- Ratio of Upside (opportunities) and Downside (threats) risks.
- Number of risks well documented, particularly for risks closed.
- Number of risk engagements per period, e.g. discussion during regularly scheduled team meetings, focused meetings, workshops.

Trends of these KPI's are regularly communicated and may be used to assess the health of a project's risk management system. Different types of risk management assessments are:

13.0 Risk Management Self-Assessment Checklist

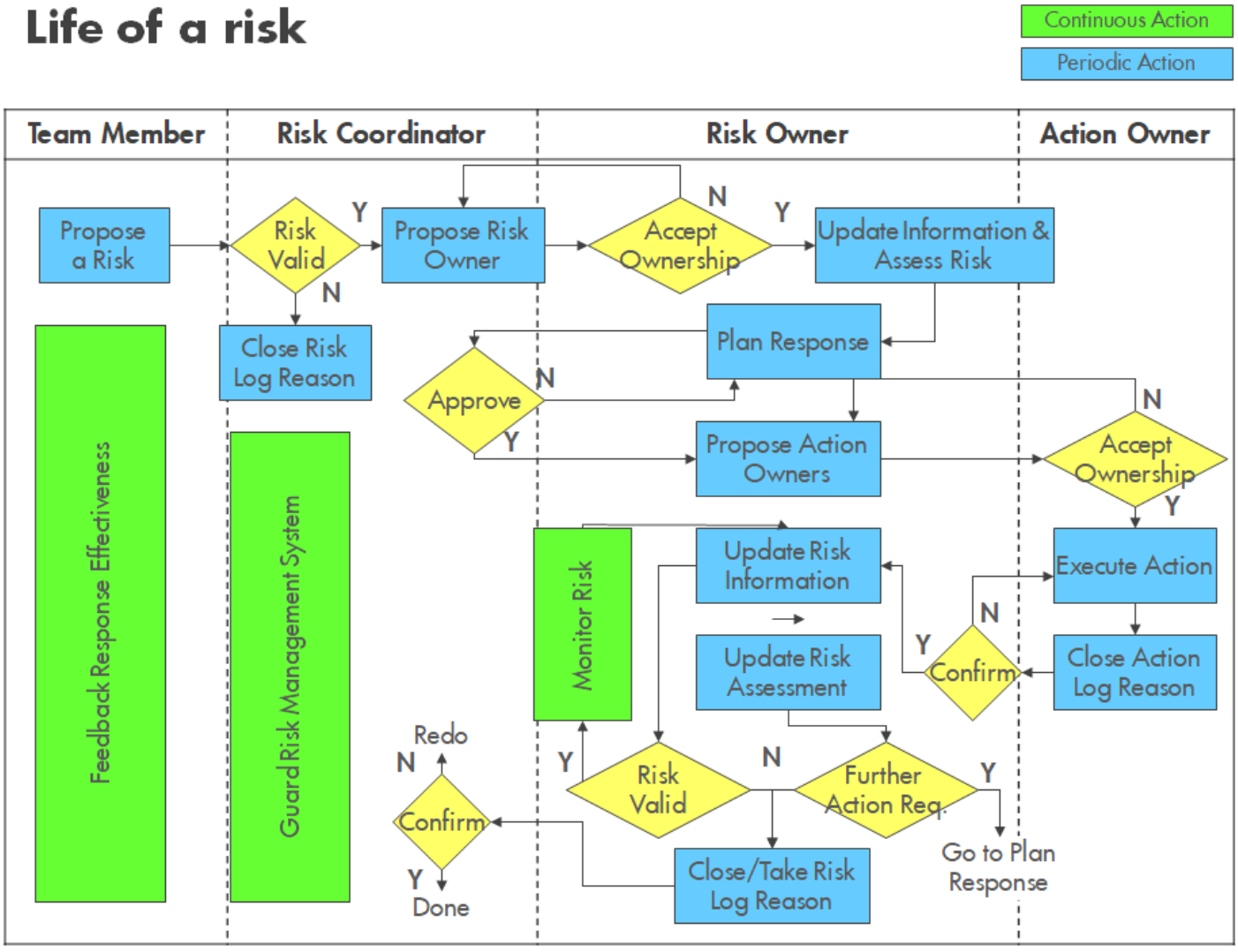
SCORE			
MEASURE	**1 = UNACCEPTABLE**	**3 = ACCEPTABLE**	**5 = EXCELLENT**
Risk Register Quality	- Register covers only 1 aspect of project. - Descriptions unclear. - Contains many non-risk and common items. - > 250 open risks. - Key risks not identified/understood.	- Covers most aspects of project, but not all. - Key/most risk descriptions clear. - Contains <20% issues/uncertainties.	- Register spans all aspect of the project. - Risk descriptions clear without further reference. - No issues/uncertainties in the register. - Urgent/critical risks identified and highlighted.
Assessment	- <80% risks assessed. - Assessment logic logged <50%. - RAM inconsistent or incomplete.	- Key/most risks assessed and >50% of assumptions logged. - RAM internally consistent.	- Standard RAM in use. - Basis for risk assessments clear without further reference, all assumptions logged.
Response plans	- Response plans not in place, approved, resourced or realistic.	- Response plans of key/most risks approved and resourced. Residual risk assessed and realistic.	- All response plans approved and resourced. Residual risk assessed and realistic. Response cost and residual risk level integrated in project plans and cost /schedule estimates.
Implementation	- No review context/risk between risk-action owners. - Action closure not logged. - Action deadlines not tracked.	- Key/most risk actions are tracked against their deadlines on weekly basis. - Action audit trails are maintained. Reason for closure logged.	- Context/risk reviewed between risk-action owners - Action deadlines are tracked on weekly basis. - Action audit trails are fully maintained. - Reason for closure logged.
Review and monitor	- Risks only drafted or reviewed preceding an assurance event, or in (less then) quarterly meetings (resulting in partial review of the risk register).	- Risks reviewed regularly (weekly/monthly) by RC/PM. - BOM/DE/DRB uses risk information for decision-making at project tollgates.	- Risks reviewed continuously (PM: weekly, DE: monthly) - RC leads meeting and nominates risks for review based on urgency/severity. - Standard meeting structure employed - (New) Team member log into the system to familiarize themselves with the top project risks and those that impact their work.
Organizational framework	- Individuals are not aware of their roles and responsibilities.	- All project risks are explicitly approved, resourced, and tracked by the Project Manager.	- Risk information escalation rules are in use.

			Risk information is used for decision making, task and resource prioritization.
Risk Coordinator	- Unfamiliar with definitions, process, organizational framework, tools, etc.	- Mostly understands theory on how to manage risks in projects (definitions, process, organisational framework, tools). - Supports team with training and information on risk status. - Ask for help from risk consultants/risk management community as appropriate.	- Fully understands the challenges on how to manage risks in projects (definitions, process, organizational framework, tools, etc.). - Challenges and drives the Project Manager to prioritize and resource risk management. - Tracks and highlights value of risk management. - Supports team members, project manager with training and quality information. - Takes leadership role in risk management community. Is sought out for opinion and advice by others. Helps in setting Risk Management policy.
Integration with project plan and cost/schedule integration	- Risk register was drafted specifically for cost/schedule estimation exercise.	- Live/existing risk register is updated and used as basis of cost/schedule analysis.	- Live risk register is fully integrated with project planning and cost/schedule estimating. - Allowances/contingencies are mapped against risks and calls/release against budget is tracked. - Resource requirement for risk management and response is included in team schedule.

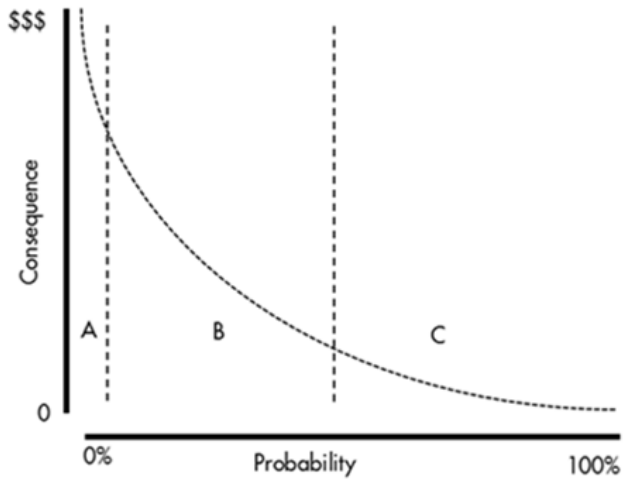
14.0 Project Risk Management Assurance

As Risk Management is mandatory for all opportunities and projects, individual risks, the risk register, and the way risks are managed for a specific opportunity/project are items that will be addressed in many assurance events, such as Integrated Functional Reviews, Value Assurance Reviews, Estimate and Schedule Assurance Reviews, etc.

Life of a risk



Is Each Risk Really Discrete?



- **Area A:** Risks that are highly unlikely to occur may be better communicated through scenarios to inform leadership of showstoppers. There may be situations where it is reasonable to model these risks. <5%
- **Area B:** Low probability risks will create a robust P90 and drag the P50 out. Higher probability risks will create a robust P50 but minimally drive the P90. Risks should be framed first by stating the impact and then the probability.
- **Area C:** Risks that are more likely to occur than not should be managed by our daily work practices or transferred to the base scope. If a risk is added to the base an opportunity should be created. >50%.

Risks vs issues example

Risk Example:

It is the start of the day and it is partly cloudy.

You check the forecast and see there is a 50% chance of thunderstorms today

The risk event is a thunderstorm, you have an estimate of the probability and the consequence is you get wet

Being prudent you decide to take an umbrella with you, in case the risk occurs

Your personal Project plan has an identified contingency plan – the umbrella

Issue Example:

Now lets assume you look out of the window and see it is raining heavily

The fact that it is raining is no longer a risk, but a certainty

It is an Issue and you'd better actively manage your response.

You can try to deny the Issue but you will only get wet

Failing to manage your project issues is just plain stupid!

Worth pointing out the frequency with which people in some projects deny the rain and go out hoping to dodge the raindrops in a downpour!!!

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