

# **TOOL A.6**

## **APPLYING RISK MANAGEMENT IN PRACTICE**

### **1. MANAGING RISK IN THE PROJECTS**

In order to obtain a full and successful application of the BDB principles it is necessary to implement a process aimed at helping the project team monitoring and responding to risk with the objective of minimising their adverse effect upon the Project. A well implemented risk strategy will enable, among others, to reduce out-turn costs and delivery time, to improve decision making, and to establish an accountable and auditable decision making procedure.

#### **1.1 How**

The management of risk in the project is obtained through two strictly related activities: risk analysis and risk management. The principles and general mechanics of the two activities are described in section II.7 above.

#### **1.2 Who**

As mentioned in section II.7, Risk Management is not one persons concern but belongs to the Project Team. For the success of the managing of risks it is however important to allocate in a clear manner risk related tasks and responsibilities among members of the project community.

##### *The Risk Manager*

The Risk Manager must :

- Be thoroughly trained and proficient in all aspects of Risk Analysis and Risk Management and must be able to demonstrate a successfully Risk Portfolio
- Have a sound experience in the construction industry
- Be able to carry out or assist others in the analytical compilation for the quantification of Risk in the mode most suitable for the Project
- Ensure that delegated risk responsibilities are well managed by those appointed to carry them out, to provide the necessary support (in the form of training or corrective treatment) to team members
- Develop a clear and easily manageable monitoring system
- Shall be adequately empowered for the carrying out of the role

### *The Risk Facilitator*

- At the inaugural meeting be able to clearly advise the team of the objectives and techniques required by all members in order to maximise on the Risk Management process
- Be able to lead a team by motivation and instil the necessary stimulus for the team to free-think relevant scenario

### *The Team*

Risk analysis and risk management involves everyone. In practice however, only stakeholders which have a direct relevance to the management of risk should be involved in the analysis and decision making activities. It is important that the numbers of people participating remains small enough to be efficient.

## **2. WHEN IS RISK MANAGEMENT TO BE CARRIED OUT?**

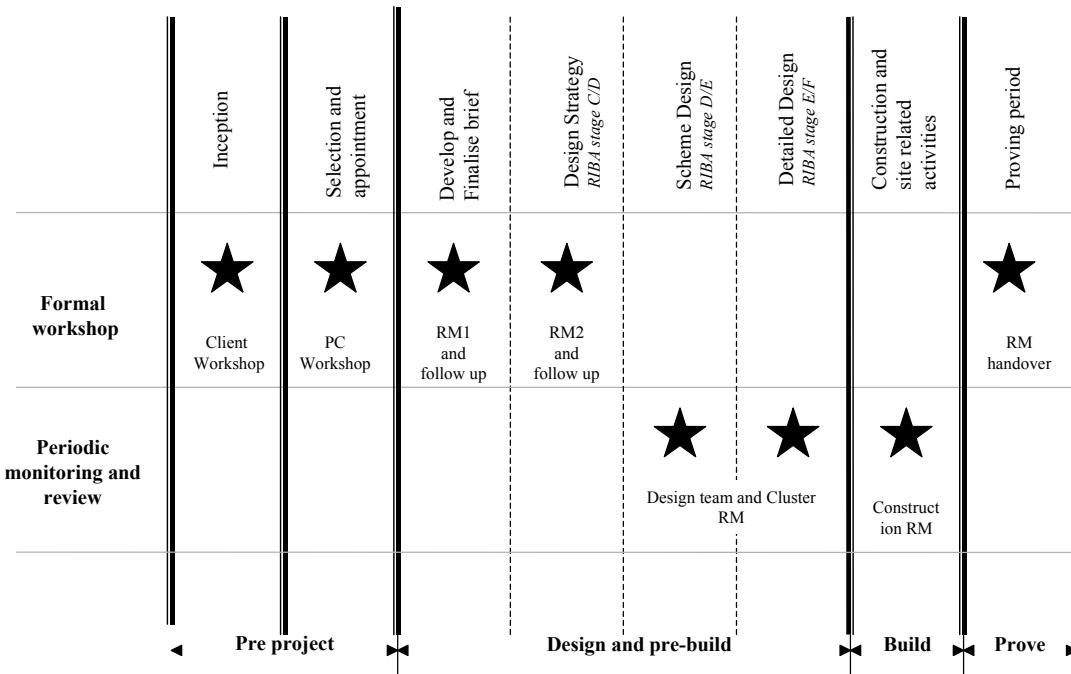
Risk Management is a continual process which should be applied to all Projects at all times

The timing and frequency of risk re-analysis and monitoring will be Project specific, but as a general guidance the following stages are probably significant.

- Project Inception
- Completion of Project Brief Development stage
- During full scheme development
- Immediately prior to full scheme submission
- When necessary due to relevant developments
- When considering Through Life Costs
- When considering Capital Replacement Costs and Programme.

## **3. A DETAILED DESCRIPTION OF RISK EVENTS IN THE EARLY STAGES OF THE PROJECTS**

The following notes provide guidance on how and when the supply chain partner will be involved in identifying and managing issues with the objective to minimise their adverse effects on the project. Although risk management should be conceived as a continual process aimed at monitoring and responding to risks, in the it is possible, especially in the early stages of the project, to identify specific occasions and events when risk is explicitly considered. Subsequently, during the design and construction stage, risk management becomes a routine management activity carried out as part of the project delivery process.



### 3.1 Client risk workshop

A risk management workshop is carried out by the client and his advisors prior to the inception stage, i.e. during the establishment of the client needs. The aim of the workshop is to identify, assess, and analyse the risks associated with the strategic brief. The risk register and analysis should be issued by the client with the invitation to tender.

**TIMING:**

During establishment of client's needs (stage 1)

**OBJECTIVES:**

Analyse the risks associated with the client's needs

**TEAM:**

Client and Advisors

**INPUT**

Option Study

**OUTPUT:**

Risk register and analysis to accompany strategic brief.

### 3.2 Contractor's In House Risk Analysis (Optional)

A risk management activity is likely to be performed by the contractor prior to the response to the invitation to tender. However this exercise will relate to the commercial aspects contained within the invitation to tender and will not be necessary in the specific context of the Building Down Barriers.

### 3.3 Risk workshop to expand strategic brief into a project brief

The first major risk workshop involving the contractor takes place during concept design (stage 3). The workshop is carried out in conjunction with, or as soon as possible after, the value planning workshop and is aimed at identifying the main categories of risk associated with the value drivers highlighted from the FAST diagram.

Where the two workshops are run in conjunction the same facilitator can be used to emphasise the relationship between the two activities.

<b>TIMING:</b>	In concomitance with the first value Engineering workshop
<b>OBJECTIVES:</b>	Attach initial risk perceptions on value drivers identified in the FAST Diagram
<b>TEAM:</b>	<i>Facilitator</i> , Project Sponsor, Sponsors Advisor, (End User), Financial, Maintenance/Estate, (Command Level), (Physical Training Rep), (Centre Manager), Contractor's Risk Manager, Contractor Design Team, (Cluster Teams).
<b>INPUT:</b>	The risk register from the “client risk Workshop” if made available
<b>INDUCTION:</b>	A “RM/RA briefing pack” will be circulated by the facilitator at least two weeks prior to the event. If the Value Management and Risk workshop are run together, all information will be included in a single briefing pack. The “RM/RA Briefing Pack” will include: <ul style="list-style-type: none"><li>• The objectives of the workshop</li><li>• Details on the event (dates and schedule)</li><li>• The list of participants</li><li>• Some background information on the project</li><li>• The agenda for the meeting</li><li>• A synthetic description of Risk Management and Risk Analysis (e.g., the draft Guidance notes produced by the Building Down Barriers, see CNSDR/046)</li><li>• A short description of what the participants will do when attending the workshop</li></ul>
<b>OUTPUT</b>	An initial list of risk categories associated with the functional options identified in the FAST diagram.

### **3.4 Design strategy Risk Analysis workshop**

The second major Risk Management takes place following the Value Management workshop aimed at consolidating the design strategy. During the meeting the appointed risk manager and/or risk facilitator supports the team in its effort to expand the existing initial register in view of the further specifications produced in this phase. At this stage the risks associated with the selected options are carefully estimated and quantified in economic terms. The allocation of risk ownership is negotiated between the client and the prime contractor.

From this moment on the risk manager will ensure that risk at the general project level will be properly analysed, registered, and managed for the whole duration of the project.

<b>TIMING:</b>	In concomitance with the High level Value Engineering Workshop
<b>OBJECTIVES:</b>	Expand the risk register in view of the further specifications
<b>TEAM:</b>	Participants to the VE Workshop : Facilitator, Project Sponsor, Project Advisor, (End User), Maintenance/Estates, DEO representative, (Physical Training Rep), (Centre Manager), Contractor's Risk Manager, Contractor Core Project team plus other potential supply chain members as appropriate to options being considered ,
<b>INPUT:</b>	A fundamental input is the initial risk register developed at the prior workshop.  The“ RM/RA briefing pack” will be also circulated by the facilitator one week prior to the event for those who didn’t attend the previous event. If the Value Management and the Risk workshop are run together, all information will be included in a single briefing pack.
<b>OUTPUT:</b>	Expanded risk register

At the end of the workshop the prime contractor in collaboration with cluster leaders will identify risk categories that will be allocated to each cluster.

### ***3.5 Risk Management Activities at the Cluster level***

Risk activities will continue within the clusters once they have been formed. Depending on the arrangements agreed at the project level, each cluster could handle its own risk register and manage the specific risks which arise from the specific activities and operations performed or else inputting into a Project level risk register. In any case, it is of paramount importance that all risk activities are co-ordinated by the Prime contractor risk manager through periodical meetings and other reporting procedures to be decided at the project level.

<b>LEVEL:</b>	In concomitance with cluster level value meetings
<b>TIMING:</b>	From sign off of Design Strategy to completion of Scheme Design and establishment of “firm price”
<b>OBJECTIVES:</b>	<ul style="list-style-type: none"> <li>○ Analyse and manage risks emerging from the options developed</li> <li>○ Update cluster level risk register</li> </ul>
<b>TEAM:</b>	Facilitator (only if needed), Prime Contractor Risk manager, Prime contractor , Cluster Team Leaders, Design Team Leader, Cluster members (selected suppliers), Client representative (s): Project Sponsor, Facility Manager, Advisor [If the client decides that it is necessary]
<b>INPUT AND INDUCTION:</b>	<p>As for the other Risk workshops the facilitator will circulate a “RM/RA Briefing Pack” prior to the event. The pack will include:</p> <ul style="list-style-type: none"> <li>○ Background information on the project for the new comers</li> <li>○ Risk register resulted from the previous activities with special emphasis on areas allocated to specific clusters</li> <li>○ Details on the event and objectives of the workshop</li> <li>○ The list of participants</li> <li>○ The agenda for the meeting</li> <li>○ A short description of what the participants will do when attending the workshop</li> <li>○ A synthetic information on RA/RM</li> </ul>
<b>OUTPUT:</b>	Updated risk register

### ***3.6 Cluster Consolidation meeting***

The aim of the meeting is to summarise the risk management activities carried out by the cluster in order to obtain the data necessary for estimating the risk associated with the construction phase.

<b>LEVEL:</b>	Inter cluster
<b>TIMING:</b>	At the end of the “concept design phase
<b>OBJECTIVES:</b>	To provide a clear and complete picture of the risks in the project
<b>TEAM:</b>	Prime contractor’s Risk Manager Cluster Team Leaders Cluster Risk Manager
<b>INPUT :</b>	Cluster risk registers
<b>OUTPUT:</b>	Project risk register

### ***3.7 Risk management during construction and commissioning***

During construction risk management activities are carried out as part of the routine activity. The results of Risk Analysis, at any stage, should be passed on down the Project for the risk manager to take the appropriate action in collaboration with the PM.

At each periodic co-ordination meeting a specific item in the agenda should allow the Risk Register to be constantly updated in order to provide a useful audit trail of the risk showing how they were dealt with and what the cost of the action was. It is essential that periodic reports include an executive summary which will highlight the main areas of change and concern and summarise the current status of the Project in terms of anticipated outcome. Toward the end of the Project, when commissioning activities are carried out, the risk manager and/or facilitator should assist the team to identify the specific risk and allocate them in the team.

### ***3.8 Post-handover risk workshop***

The final major Risk Management activity takes place following the workshop aimed at establishing the process and responsibilities of the proving period. During the meeting the appointed risk manager and/or risk facilitator supports the team in its effort to draft a new risk register related to the activities to be carried out during in the last part of the project. As for the earlier stages of the projects, the risk associated with each of the options are carefully estimated and quantified in economic terms. The allocation of risk ownership is negotiated between the client and the prime contractor.

<b>TIMING:</b>	In concomitance with the handover/proving period workshop
<b>OBJECTIVES:</b>	To analyse risks associated with the proving period
<b>TEAM:</b>	Participants to the Workshop : Facilitator/Contractor’s Risk Manager, Project Sponsor, Project Advisor, Facility Manager, Maintenance manager, Contractor, selected Cluster Leaders.
<b>INPUT:</b>	Proving period plan and arrangement
<b>OUTPUT:</b>	Proving period risk register

**Collaborating for the Built Environment (Be) – [www.beonline.co.uk](http://www.beonline.co.uk)**

Be is an independent body formed from a merger of the Reading Construction Forum and the Design Build Foundation in 2002. Its 100 member organisations come from the demand and supply chains of the 'industry formerly known as construction', ranging from public sector and private sector clients and developers to contractors, designers, consultants, specialists and suppliers. It leads research and implementation activities in support of a vision of delivering integrated built environment solutions through collaborative working.

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**Collaborative Working Centre – [www.collaborativeworking.co.uk](http://www.collaborativeworking.co.uk)**

The Collaborative Working Centre of Be is a not-for-profit organisation set up from members of the team that facilitated *Building Down Barriers* to provide consultancy, training and other continuous improvement services to support the development and implementation of collaborative working.

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