



## **1. Introduction**

The EFFC Guide to Risk Management is intended to provide guidance and advice to Members on the identification and management of risks when carrying out geotechnical works.

The objectives of the Guide are:-

- to formalise what companies already do informally to identify and manage risks (ie similar to the early days of Quality Assurance)
- to ensure that everyone is competing on a level playing field (ie that risks and possible consequences have been properly understood by all bidders)
- to provide a tool to help educate clients about the risks, how to manage them, and the cost implications.
- to educate and assist small and medium sized EFFC Members in particular.

It is ironic that many consider the petrochemical industry to be 'safer' than the geotechnical industry. This is solely due to the fact that the consequence of an incident within the petrochemical sector is so significant that the industry was forced to introduce rigorous risk management practices at an early stage in its development.

Proper risk management on a Project can only be successful when ALL members of the supply chain work together with the common objective of minimising adverse risks and optimising positive risks. The best discussions happen when the ultimate client is involved and takes a proactive part.

This Guide is intended as an internal document to Members. Many of the entries in the risk register should however be communicated to the Project team for introduction into the Project Risk Register.

## **2. Risk Management**

### **2.1 General Principles**

Risk Management is a process which enables the analysis and management of the risks associated with a project.

Risks for which there is ample data can be assessed statistically. No two construction projects are the same and things often go wrong for reasons unique to a particular project.

Proper use of Risk Management will achieve:-

- an increased understanding of the project
- an increased understanding of the risks and their impact by all parties to the contract
- an ability to allocate the risks to the party best able to handle them
- assessment of contingencies that actually reflect the risks
- facilitation of greater, but more rational, risk taking
- improved decision making
- better insurability
- risk reduction

It is the responsibility of senior management to define a policy for risk management for each Member. Such policy should clearly identify the objectives and develop procedures to be followed, allocate responsibilities, provide adequate resource and training, and set up communication and review procedures.

Principle elements in the process include:-

- identify and describe the potential risks
- rank each risk according to its probability and impact
- determine the type of control measures required
- assess the residual risk after implementation of control measures
- allocate an owner to the residual risk
- communicate the results
- monitor and review and communicate at regular defined intervals

## 2.2 The Risk Register

If risks are not identified, it is impossible to prevent them occurring or mitigate their consequences. Prioritisation is essential to ensure that greater effort is expended on those risks with the greatest consequences for the project.

Preparation of the Risk Register enables the risks to be systematically identified and prioritised (see Appendix 1).

It is suggested that risks are prioritised as follows:-

$$\text{Degree of risk} = \text{Probability} \times \text{Impact}$$

Probability and impact are assigned numerical values:-

<u>Probability</u>		<u>Impact</u>	
Very likely	5	Very high	5
Probable	4	High	4
Likely	3	Medium	3
Unlikely	2	Low	2
Negligible	1	Very low	1

## 2.3 Responding to Risk

Ideally, only risks with a very low degree should be accepted and managed, but in practice this is not always possible.

Risks should then be:-

- avoided, or
- if unavoidable, transferred (wholly or partly) to another party, or
- if non-transferable, mitigated, or
- if unable to mitigate, accepted and managed.

## 2.4 The Prompt List

Experience has shown that generic lists are far more efficient than starting from scratch on each project. Appendix 2 gives a Prompt List which identifies many of the most common risks. The Prompt List is not intended to be exhaustive and each Member should add site specific risks to the list.