

## Emergent Risks Register – Definition of Terms

The sections below attempt to define the meaning of the terms used in the topic and consequence/impact lists used as an aid in defining emergent project risks registers.

### Topics

#### Political

Related to changes in political policy (e.g. due to a change of Government) or to actions of the political authorities.

#### Legal

Risks arising from legal action or decisions made by the Courts. Examples are limitations on what can be done or financial penalties including damages and compensation.

#### Regulatory

Actions and limitations by the regulatory authorities. Regulatory authorities include not only those covering a given industry but also more general authorities such as those responsible for health and safety, the environment and construction planning.

#### Direct Public Pressure

Direct action by the large numbers of the public (e.g. by boycott or other acts) or by pressure groups (e.g. those based on local concerns or those having a specific agenda). It excludes cases where direct pressure results in action through the political, legal or regulatory processes.

#### Security

This covers risks occurring from actions needed to ensure security in the short term in response to specific events or threats and in the long term from the general security risks in society. It also covers the risk of breaches or failures in security such as terrorist attacks.

#### Criminal Activity

This covers all forms of criminal activity. Examples are violence, sabotage and fraud.

#### Technology

Changes due to the effects of new technical developments that feed through into changes that affect the project. These may be based on new scientific discoveries or on further implementation of existing knowledge.

#### Engineering

Risk from the application of engineering to a project including any failures or improvements in current or planned work. Engineering failure may occur due to factors that cannot be reasonably anticipated.

## Requirements

This covers the risk that a project completed according to a defined specification may not meet the required need. This can result in a shortage of required facilities or low use because they are not suitable. Examples are a specification that has been in error or needs that have changed either during the project construction period or afterwards during its lifetime.

## Environmental

Risks due to any environmental factors. These include climate change, weather, natural conditions, natural disaster, disease and contamination. They include the effects of changes to the environment due to human activity.

## Financial and Economic

This covers risks due to the finance of the project or the economic circumstances (local, national or international) surrounding it. Examples are under or overspend, failure of finance and severe over or underestimation of commercial markets.

It should be noted that all risks to a project are likely to have financial consequences, many of them major. This topic is not meant to cover all risks but only those of a financial nature.

## Knowledge

Risks arising from a lack of knowledge. This may occur for a number of reasons including loss of records, gaps in existing knowledge and insufficient knowledge of those involved or related to the project.

## Culture

This covers risks that may occur due to the culture within the project or related organisations. It covers the general attitudes that exist that affect the approach of an organisation to any work or project it undertakes. The culture of an organisation could have either positive or negative effects on the progress and successful completion of a project.

## Human Factors.

These risks arise due to the actions of people. They can come from the action of a large number of people (e.g. a major strike) or from one or a very few individuals (e.g. unauthorised trading, concealment of important information).

## Consequences/Impacts

### Delay

This covers the delay in a project due to the occurrence of a risk. It may range from a short period to extended delay.

### Refusal to Proceed

This covers risks resulting in a project or part of a project not being allowed to proceed. This will either result in the project being stopped or some alternative approach being adopted to proceed to the project intentions.

**Change Limits**

These consequences arise from changes in the limits or boundaries applying to all or particular aspects of a project. They occur in a wide variety of areas including health and safety, allowable discharge or contamination levels and acceptable boundaries in financial services. They are most likely to arise from a change in regulation.

**Disaster**

Disastrous failure resulting from a risk occurrence resulting in major consequences for the project.

**Operational Failure**

Failure in the operation of the project leading to underperformance and failure to meet objectives. This may range from minor to major significance. Projects may also operate better than planned leading to an opportunity.

**Lifetime Failure**

Failure of the project to operate for its expected lifetime. This may be due to early termination of a project that is capable of continued operation or failure of the project to operate for the expected time due to replacement by an alternative or because of poor results. Projects may also operate in excess of their expected lifetime providing an opportunity.

**Finance/Commercial**

Financial and commercial consequences of project risks. These may be positive or negative. It should be noted that most or all risks to a project are likely to have financial consequences, many of them major.

**PETROCHEMICAL EXAMPLES**  
**REFINERY**  
**10 EMERGENT RISKS**

**EMERGENT RISKS MATRIX**

		EMERGENT RISKS		CONSEQUENCE / IMPACT						
				1 Delay	2 Refusal to proceed	3 Change Limits	4 Disaster	5 Operational Failure	6 Lifetime Failure	7 Financial / Commercial
1	Political	1	CHANGE OF GOVERNMENT	*	*					*
		2	CO2 LIMITS							*
		3	ACTION BY GOVERNMENTS ETC (E.G.OPEC)	*	*				*	*
2	Legal	1	EMISSIONS EXCEED LIMITS	*		*	*			*
		2								
		3								
3	Regulatory	1	ZERO EMISSIONS		*			*		*
		2								*
		3								
4	Direct Public Pressure	1								
		2								
		3								
5	Security	1	EXPLOSION / FIRE / TERRORISM	*			*	*		*
		2								
		3								
6	Criminal Activity	1	SABOTAGE OF PLANT	*			*	*		*
		2								
		3								
7	Technology	1	OPPORTUNITY SELLING							*
		2								
		3								
8	Engineering	1	FAILURE OF DESIGN / PLANT	*			*	*		*
		2								
		3								
9	Requirements	1								
		2								
		3								
10	Environmental	1	AVAILABILITY OF GAS / OIL	*				*	*	*
		2								
		3								
11	Financial and Economic	1								
		2								
		3								
12	Knowledge	1	STATE OF THE ART OPERATING PROCESSES	*				*		*
		2								
		3								
13	Culture	1								
		2								
		3								
14	Human Factors	1	UNAVAILABILITY OF SKILLED LABOUR IN UK	*	*			*		*
		2								
		3								

TOPICS

**NUCLEAR EXAMPLE**  
**DECOMMISSIONING**  
**10 EMERGENT RISKS**

**EMERGENT RISKS MATRIX**

EMERGENT RISKS			CONSEQUENCE / IMPACT							
			1 Delay	2 Refusal to proceed	3 Change Limits	4 Disaster	5 Operational Failure	6 Lifetime Failure	7 Financial / Commercial	
1	Political	1	CHANGE OF GOVERNMENT	*	*					*
		2	DELAY IN THE PROVISION OF FINAL DISPOSAL	*	*					*
		3								
2	Legal	1	CLAIMS AGAINST RADIOACTIVITY EXPOSURES	*				*	*	*
		2								
		3								
3	Regulatory	1	REDUCTION IN RADIOACTIVITY LEVELS	*		*				
		2	CLEAN UP OF LOW ENVIRONMENTAL ACTIVITY			*				*
		3	RECLASSIFICATION OF NUCLEAR MATERIALS A WASTE			*				*
4	Direct Public Pressure	1	EFFECT ON LOCAL RESIDENTS / ILLNESS	*		*				
		2								
		3								
5	Security	1	RADIOACTIVITY ESCAPE	*			*	*	*	*
		2								
		3								
6	Criminal Activity	1	SABOTAGE PLANT	*			*	*	*	*
		2								
		3								
7	Technology	1	LONG TERM TREATMENT OF WASTE	*				*	*	*
		2								
		3								
8	Engineering	1	TREATMENT OF WASTE	*			*	*	*	*
		2								
		3								
9	Requirements	1	MISMATCH OF PLANT OPERATIONS					*	*	*
		2								
		3								
10	Environmental	1	LOCAL EFFECT ON WILDLIFE ETC	*			*	*		*
		2	LONG TERM CLIMATE CHANGE							
		3								
11	Financial and Economic	1	RELEASE OF FINANCE	*	*					*
		2	RISING COSTS	*	*					*
		3								
12	Knowledge	1								
		2								
		3								
13	Culture	1	NUCLEAR / GAS / COAL ENERGY	*		*		*	*	*
		2								
		3								
14	Human Factors	1	UNAUTHORISED OR ERRONEOUS ACTIONS	*	*			*	*	*
		2								
		3								

TOPICS

