# WORKSHOP TITLE: RISK IDENTIFICATION AND MANAGEMENT

**Workshop Duration:** Typically 2 days

**Typically Used:** During the Front-end Development Phases of a project

**Overview of the Workshop**

Effective risk management (RM) is one of the critical success factors in large Oil & Gas projects. Most of the 'train-wreck' projects that have occurred in the past will have had an element of poor risk identification and management as a major contributing factor.

Risk management is an ongoing activity throughout a project's development. The type of risks faced by the project change during the lifecycle and there is therefore a need to constantly repeat and update the risk management process. It is also hugely important to have an effective record keeping and tracking system for risks.

An RM workshop is normally of 1 to 2 days duration and involves a cross-section of the development / project team and the key stakeholders. It is a structured and facilitated process and goes a long way to populating (and updating) the project Risk Register and the Risk Management response database. It is not the only activity that is part of an effective RM system but is an integral part of the overall RM system.

**When to Use a Risk Identification and Management (RM) Workshop**

The first RM Worksop for a project will usually be conducted in the Identification or Assessment Phases of a new development. Most Gated Development Processes require the major project risks to be identified and mitigated before the project passes its first Review Gate (e.g. between Identification and Assessment or between Identify/Assess and Select depending on the corporation's gated process).

Thereafter it is usual to repeat the RM workshop (with possibly a shorter duration) at the start of each new phase of a project because new risks will become important as the project progresses to new activities.

The key to successful use of the RM technique in each of the project development phases lies in following a structured approach and involving all the key team members.


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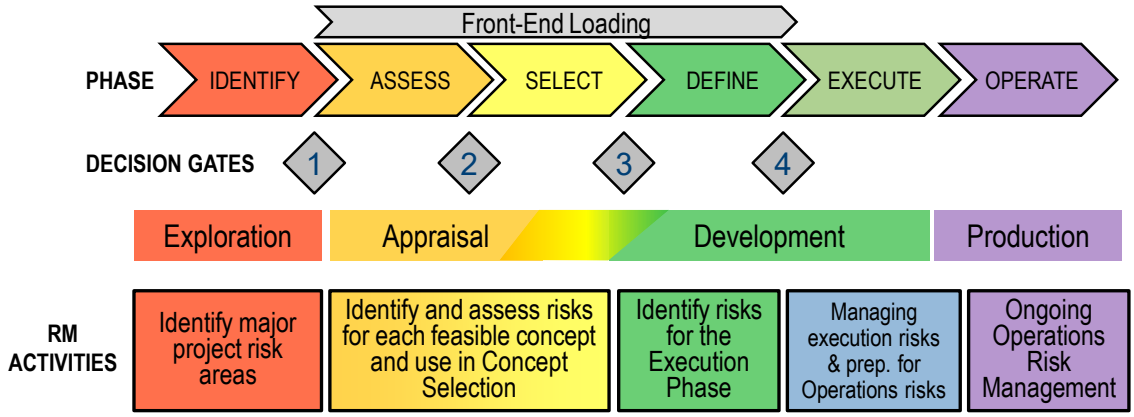
# Risk Management in the Project Phases

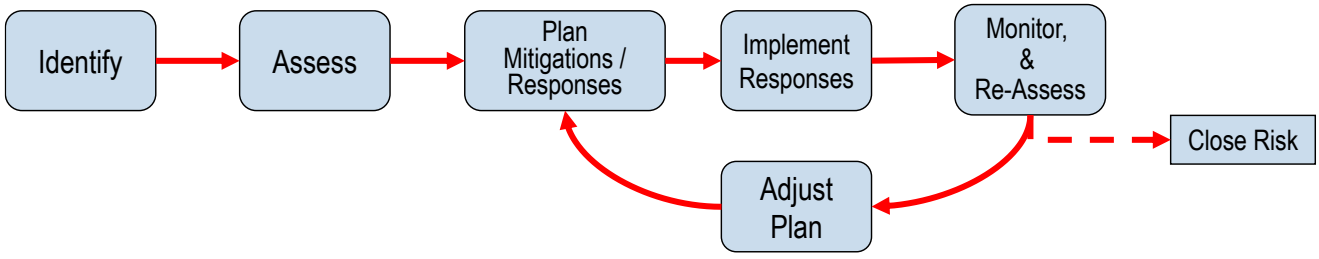



**How the Workshop is conducted**

RM workshops are conducted with an integrated, multi-disciplinary, group of staff. The disciplines required in any particular workshop will depend very much on the development project. Typically, for an Oil & Gas development project, RM workshops involve Reservoir Engineers, Well Engineers, Production Technologists, Process Engineers, Facilities Engineers, Cost Estimators, Maintenance & Operations Engineers and representatives of the Commercial functions (e.g. Legal, Contracting, Business Development). It is important to identify prior to the first RM workshop what the major project scope area are that will need to be addressed in the RM workshop. This is best done by reviewing the Project (Opportunity) Framing output and the project Value Chain. Representatives of the functions involved in the whole value chain should be in attendance at the RM workshop.

Although a relatively standard, structured, approach is followed for the RM workshop, each workshop will be tailored to the development / project. The workshop facilitator will review the Opportunity Framing output and then engage with the workshop sponsor and key stakeholders in designing the workshop. The logistical plans are also agreed (which includes the workshop team, any required outside expertise, the location, timing and administrative arrangements).

The RM workshop will follow an agenda that mimics the first few elements of a typical Risk Management process. This will be a familiar sequence as it is very similar to all Quality management processes.




The main elements of the RM Workshop will be the following :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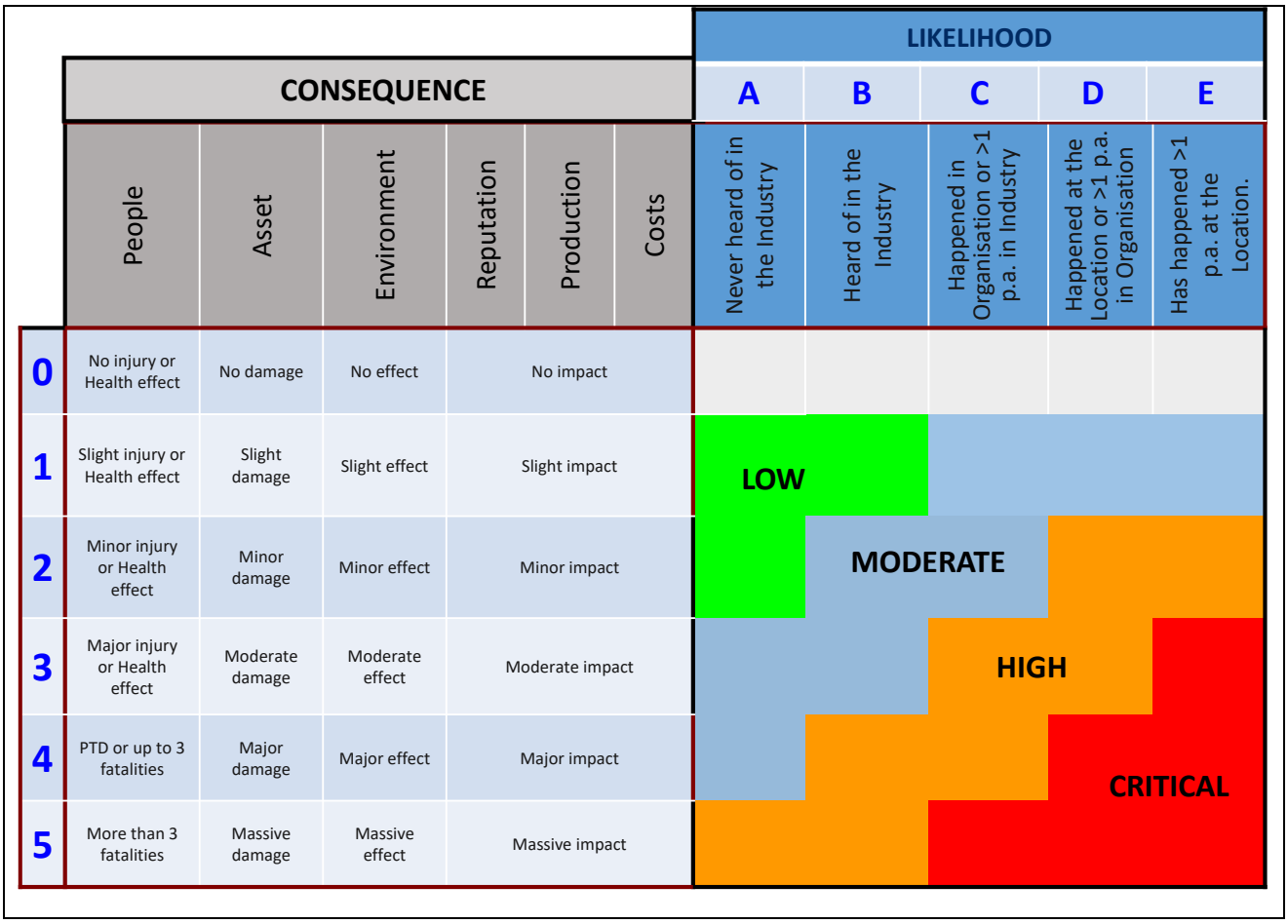
- Identification of Risks (and Consequences)
- Assessment of the Risks (Chance & Severity)
- Mitigation Planning

## Typical Risk Assessment Matrix




**Typical Agenda for an RM Workshop**

A typical Workshop agenda might be :

Day 1

- Welcome & HSE Procedures
- Introduction to Risks and Risk Management
- The Sponsor Message
- Grounding Presentations
- The Project / Opportunity Framing Summary
- Risk Identification

Day 2

- Re-cap of Day 1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- Introduction to Risk Assessment & Risk Matrices
- Assessment of Risks
- Introduction to Risk Mitigation and Management
- Identify Risk Responses
- Recap the whole Risk Register
- Short-Term Action Plan
- Workshop Close

**The deliverables from an RM Workshop**

A Feedback Presentation may or may not be conducted depending on the wishes of the Project Sponsor.

In addition to any Feedback Presentation, the output from the Workshop includes the full set of risks identified during the workshop together with the quantification (Assessment) of those risks and the mitigation plans for the highest ranking risks.

UCE will normally deliver the workshop output in the form of a Microsoft Powerpoint presentation pack together with a Microsoft Excel spreadsheet containing the full list of identified risks, their quantified assessment and the proposed mitigations.

### Risk Register populated in an Excel Spreadsheet

| | | | | | INPUT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | TECOP+ | Category | Title | Description of Issue / Consequence | Risk / Opportunity | Probability | Magnitude | Ability to influence | Risk | Action / Comments | Owner | Status | Next Check |
| | | | | | R/O | H/M/L | H/M/L | H/M/L | | | | | |
| 7 | P | HSE | Flaring | Currently gas is flared. Company guidelines expect all flares to be eliminated by 2024. | R | H | H | H | H | Plan to eliminate flaring/Implement flaring philosophy | | | |
| 8 | T | HSE | Venting | Currently process equipment has vented gas/H2S emissions to air, odour etc | R | H | H | H | H | Plan to eliminate venting asap. Guideline by 2021 | | | |
| 37 | T | Common infrastructure | Workshops (equipment and electrical) | Limited facilities, shortage of skilled staff, shared with other areas, will not be able to maintain new plant or equipment | R | H | H | H | H | Supervisors to train local staff on the job or set up own workshop | | | |
| 49 | T | Offshore platform | Structures | Structure integrity, end of design life, no cathodic protection, lack of maintenance/ | R | H | H | H | H | Fitness for purpose investigation, certify, baseline survey may have to replace | | | |
| 52 | T | Offshore platform | Power supply | System capacity unknown/Loss of production | R | H | H | H | H | check, and replace | | | |
| 66 | E | Economics | Operating costs | Increase due to use of contract staff (over local staff) and mode of operations. May have to set up support head office/ Reduce profits | R | H | H | H | H | Ensure realistic OPEX in economics | | | |
| 6 | P | HSE | Produced water disposal overboard | Off spec, reaches shoreline, does not meet legislation/Environmental contamination | R | H | H | L | H | Isolate from facility, assist GPC to upgrade system | | | |
| 1 | T | HSE | H2S | H2S toxic gas that is currently vented to air/health of workers, LTI increase, death, reputation damage | R | H | H | M | H | introduce H2S policy for facilities and operations | | | |

**Facilitator**

Phil Tudhope is currently Director of a consulting company, specialising in technical and project management training for graduates and more senior technical staff. He has a first class honours B.Sc. in Mechanical Engineering from Bristol University and is a Chartered Engineer, Fellow of the Institution of Mechanical Engineers and Associate Member of the Institution of Chemical Engineers.

Phil has over 40 years' experience in Project Management, Technical Development and Change Management in the oil & gas industry and proven technical and managerial capabilities to achieve results with a strong business focus and to effect significant positive change. He is a specialist in front-end (feasibility & concept selection) phases of upstream oil & gas developments with midstream (LNG) experience and project execution experience and has the ability to perform analysis and development work as well as lead and motivate teams.

Amongst other roles, he was Specialist Front End Advisor at Petronas Carigali, Chief Process Engineer at BG Group and Head of Upstream Engineering at Shell Technology India. He has


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experience worldwide in differing political, social and remote environments, having worked overseas for 28 years including the Far East, USA, Europe, the Middle East and India.

Phil is an experienced instructor and has designed and facilitated over 50 workshops including; Opportunity Framing, Concept Identification and Selection, Value Engineering, Risk Management, Contract Management and Produce-the-Limit.



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