WORKSHOP TITLE: DEVELOPMENT CONCEPT IDENTIFICATION

Workshop Duration: 2 days

Typically Used: In the Front-End Loading (FEL) stages of Project Development

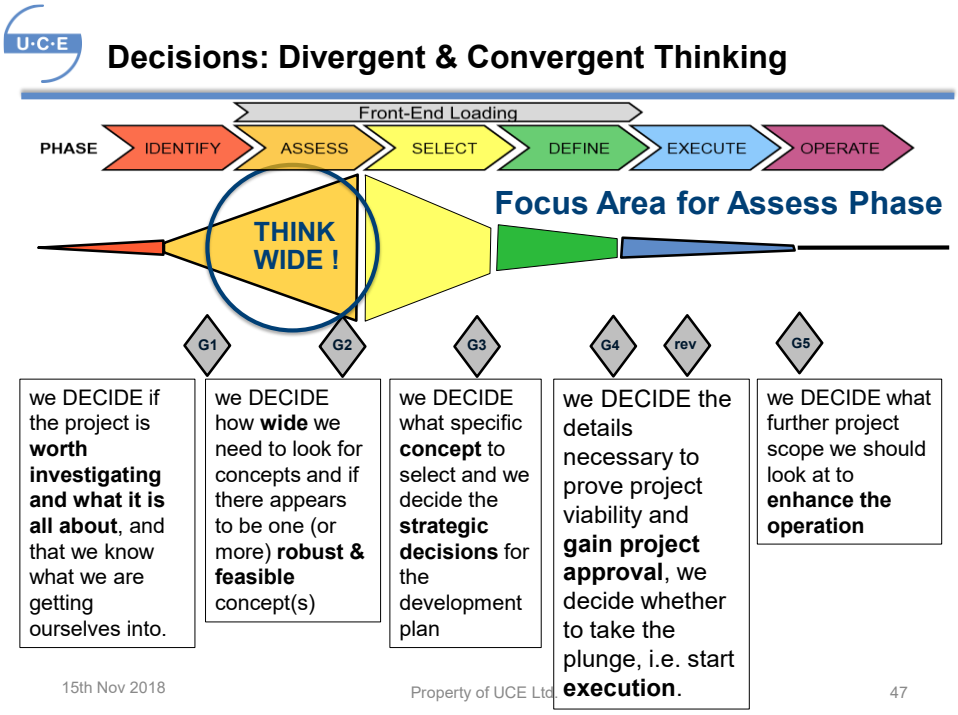
Overview of the Workshop

A Concept Identification Workshop is a Value Improving Practice that is applied by most major Oil & Gas Operators as part of a gated development process. The value of a Concept Identification Workshop in the early phases of a new development (or project) is to enable a wide range of concepts to be considered before any tendency to plunge into a single solution takes hold.

The structured format of the Concept Identification technique ensures that a realistically wide range of concepts is considered up to the project feasibility gate. The methodology also enables the subsurface uncertainty ranges to be described in a simple manner. This is particularly valuable in providing a clear framework for showing the range of concepts that are likely to minimise project risks. This framework can then be used to plan and direct the work in the Feasibility Phase of a project.

When to Use a Concept Identification Workshop

The Concept Identification Worksop is usually conducted at the beginning of the Assess Phase of a project (or Development).



Although Concept Identification is described here in relation to Oil & Gas developments, the technique is general and can be used in other industries, such as :

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- Any industry that has a development phase where a new design is being created
- Research areas where a number of theories are being considered to describe (or prove) a physical phenomenon
- New product developments where alternatives need to be considered for which products to pursue to market

The Concept identification Workshop is usually a one-off exercise but could be repeated if there is a significant change in the boundaries of a development (such as significant change in the subsurface information, addition of new resources such as an adjacent exploration licence block.

How the Workshop is conducted

Concept identification workshops are conducted with an integrated, multi-disciplinary, group of staff, including the key business decision makers and those responsible for the technical and commercial development of the opportunity. The use of a multi-disciplinary team results in a good understanding of the full range of aspects impacting project success and also a sound understanding of the key risks. It is particularly important that the subsurface team, the wells team and the surface facilities team are well represented in the workshop.

The workshop is facilitated by an experienced Workshop Facilitator, who guides the participants through the structured sequence of activities in concept identification.

The Facilitator will engage with the Workshop Sponsor(s) in good time before the workshop in order to plan the workshop and tailor it to the specific development and the sponsor's requirements.

The Elements of a Concept Identification Workshop

- Building Uncertainty Tables and Realisations from Subsurface information
- Decision Tables and Creating Concepts
- Assessment and Selection Criteria
- Concept Identification
- Establishing Project Feasibility
- The Workplan for the Assess Phase

The Facilitator guides the workshop team through the structured 'Modules' which deliver the context and content to address the above areas.

A typical Workshop agenda might be :

Day 1: Uncertainties and building the Realisations

- Introductions & Overview of the Workshop agenda
- Description of the Concept Identification process
- Introduction to Uncertainties and Outcomes
- Building the Realisations
- Introduction to Decisions and Options

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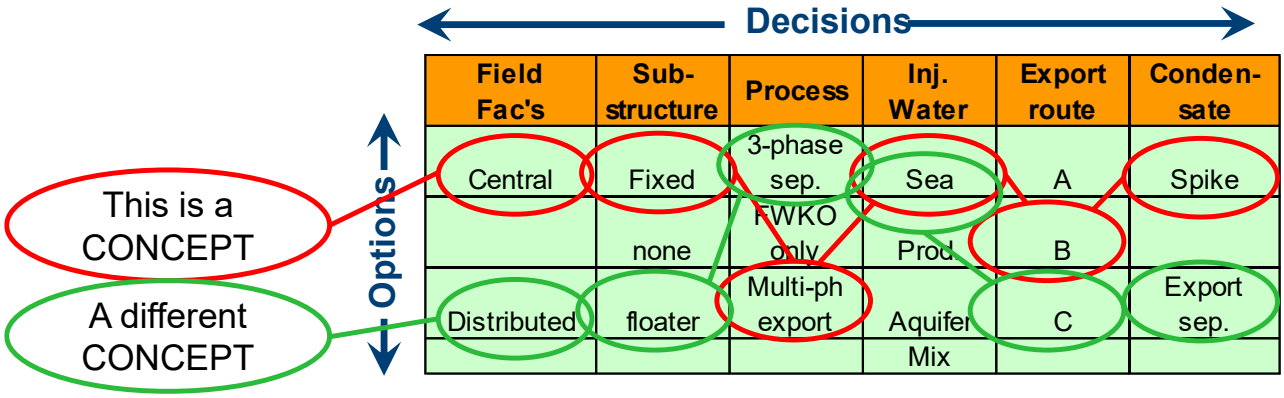
Day 2: Developing Concept Options and Establishing Project Feasibility

- Concept Options
    - Building alternative Development Concepts
- Assessing Scenario's
    - Assessment / Selection Criteria
- Feasibility
    - Establishing Feasibility
- The Assess Phase Workplan
- Workshop wrap-up

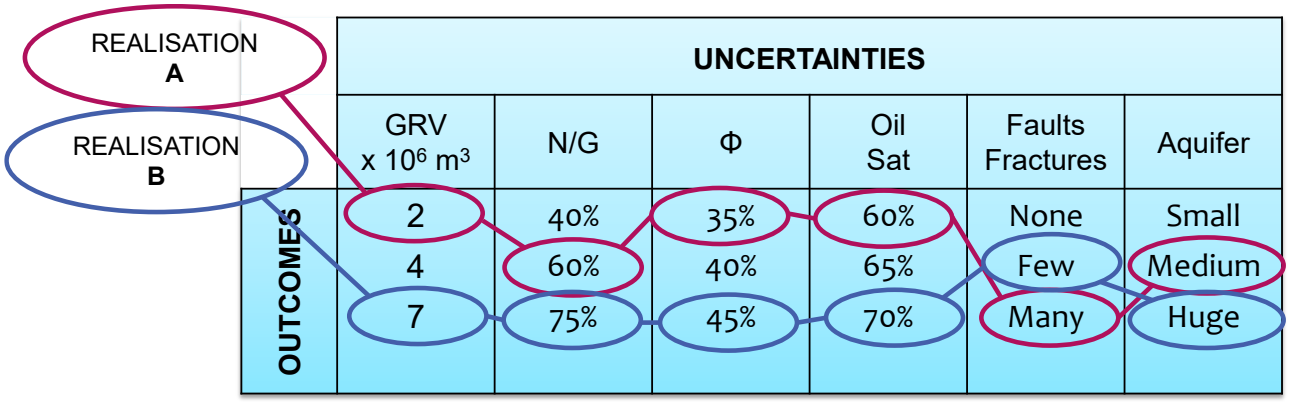
The deliverables from a Concept Identification Workshop

The output from the Workshop are a number of key diagrams that show in a simple manner the alternative Concepts, how they stack-up against the Subsurface Realisations and what should be done in the Assess Phase to prove project Feasibility.

Example : Concept Table



Example : Realisation Table



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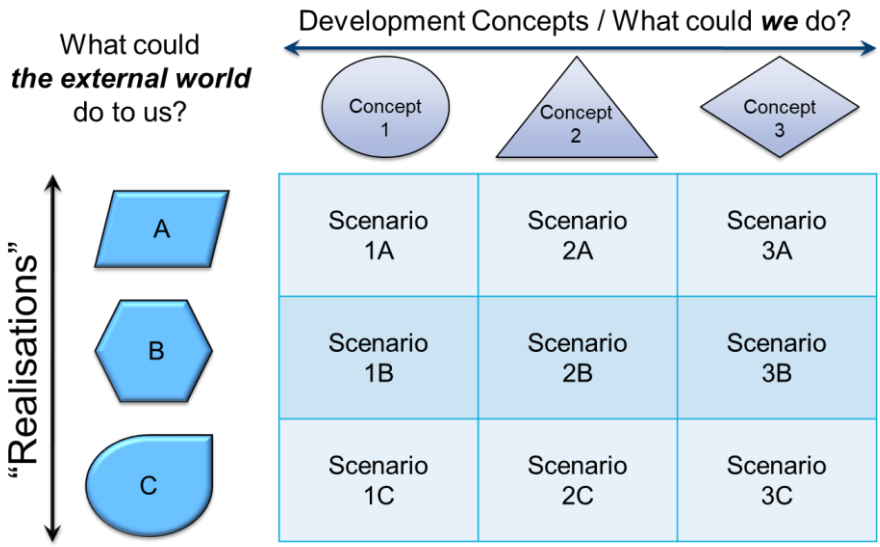
Example Scenario Comparison



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 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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