

Facilities Engineering (5 days)

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Business context:

This course focuses on the role of facilities engineers during the project initiation phase. In particular on the economic and technical appraisal of alternative possible project scenarios. As a member of a multi-discipline team of subsurface and surface engineering disciplines, the Facilities Engineer's key role is to develop alternative facilities design concepts, identify the required resources, prepare screening cost estimates (Capex and Opex) and expenditure phasing's based on initial project execution planning. He is responsible to assess the technical feasibility of each of the alternative facility concepts under consideration.

Using the subsurface development options and design concepts for well(s) as input, course participants learn to brainstorm possible project scenarios and to identify and quantify the hazards associated with each option. Participants will additionally learn by means of a case study to apply techniques to define and evaluate the alternative project scenarios and to rank these on their economic attractiveness. The aim is to discard the inferior options and to single out one project option for further definition.

Content of the program:

- key planning steps in the project development process;
- the role of the facilities engineer therein
- brainstorming alternative project scenarios and facility design concepts;
- identifying and quantifying hazards associated with each option
- assessing technical feasibility;
- work breakdown structures and Cost Time Resources analysis;
- screening cost estimates (both CAPEX and OPEX);
- project execution planning;
- initial contracting strategy;
- assessing economic viability; economic analysis techniques;
- risk assessment;
- profitability indicators: net present value, payout time, maximum exposure, earning power, unit
- technical cost, break even price, profitability index, sensitivities & spider diagrams;
- net-back calculation techniques;
- case study.

Who should attend:

Facilities engineers, reservoir engineers, petroleum engineers well engineers involved in field development planning (FDP).