

Decision Based Modeling for Risk-Reward Projects

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ABSTRACT

The imminent need for defining fit to the purpose solutions might impact how we approach reservoir modeling and the decisions thereof; the relevant elements that comprise the turning or hinge points that drive us toward the least costly and most effective solution, are sometimes difficult to assess due to high degree of uncertainties and risks.

The objective of this work is to highlight how oil services companies engage in the selection of risk-reward projects based on a methodology that incorporate primarily risks assessment at all stages of the decision process from the static input to the economics; if the opportunity qualify based on a “portfolio fit analysis” supported on an uncertainties matrix analysis then the company move forward, from the pre-screening to the asset evaluation including all the way to the final negotiation.

Therefore, a number of phases are involved in this process from the pre-requisites of the evaluation where the framing meetings are held which includes QHSE all the way to conceptual field development plan (cFDP). These phases can be classified as minimum requirements in this process and we can readily identify at least four of them: pre-screening, screening, evaluation and negotiation.

The concept that firstly drives these various phases is what we referred above as “portfolio fit analysis” where the opportunity is presented and decisions are made toward moving it to the Asset Evaluation phase where resources are assigned to validate the technical data which once validated, an updated portfolio fit analysis is presented. Screening, Evaluation and decisions are all based on “risk” which is the primary driver of this work.