

Risk Analysis, Lessons Learned

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Abstract

Uncertainty about the effectiveness of industry risk analysis methods for exploration and development projects led Unocal to evaluate and improve their own methods over time using experience and history. Many analysts continue to question whether risk analysis works at all, or at least they recognize that their own method may need evaluation.

Unocal's experiences result in a systematic approach, presented here:

1. written guidelines are important so that all parties are aware of the criteria for evaluation and, furthermore, there needs to be communication so all parties continue to stay involved and are aware of updates;
2. continued oversight of the evaluation process is required for consistency, to eliminate bias, and constantly check for misinterpretations that can occur;
3. there needs to be risk analysis training for both the technical staff as well as management;
4. the evaluation software used in risk analysis should be standardized, easy to use, accessible to persons involved in risk analysis, and adaptable to the needs of the team as technology changes and the quality of certain data improves;
5. an understanding about dependency between variables is essential;
6. methods should evolve to compensate for new techniques – for example, seismic direct hydrocarbon indicators (DHCIs) – as they become important to the exploration or development process; and
7. project results should be charted and understood, and the entire process of analysis should constantly be evaluated over time to introduce adjustments or enhancements to the methods

[Editor's Note]: This paper was originally presented at the 1998 SPE Annual Technical Conference and Exhibition at New Orleans, September 27-30, and a full-text version is available from the Society of Petroleum Engineers (SPE Paper #49030). We offer here an abstract of the presentation made at the AAPG Hedberg Research Conference, "Integration of Geologic Models for Understanding Risk in the Gulf of Mexico," September 20-24, 1998, at Galveston.