

**United States House of Representatives
Committee on Financial Services
Hearing on Corporate Governance and Accounting for Oil and Gas Reserves**

**2:00 pm, Wednesday July 21, 2004
Room 2128 Rayburn House Office Building**

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Thank you for inviting me. The comments that follow and my testimony before this committee are the result of my academic research, and reflect my individual opinions based on an academic review of the oil and gas industry and the publicly available information surrounding the numerous oil and gas reserve restatement that have occurred in recent months.

The accounting for oil and gas reserves has a long and tumultuous history, and has periodically been the subject of considerable debate in Congress, the accounting community, and the financial markets. The recent reserve restatements by a number of companies in the oil and gas industry have once again placed increased scrutiny on the calculation and determination of oil and gas reserve information, and prompted this committee to consider whether the current accounting rules for oil and gas reserves should be revisited in light of recent events.

Oil and Gas Reserves

Oil and gas reserves are, by definition, an estimate and subject to considerable uncertainty. The amount of oil and gas reserves that are disclosed in a company's

financial reports are determined by two factors: (1) the definition of reserves, and (2) the reserve estimation process.

The *definition of reserves* for companies listing on U.S. securities exchanges is established by the Securities and Exchange Commission, and provides a conceptual foundation for the reported estimates. While the definition of reserves varies across countries, the SEC's definition is widely considered to be the most rigorous and conservative reserve definitions in place.

The *reserve estimation process* is a complex process whereby companies use a wide array of data to develop an estimate of the value of a company's proved oil and gas reserves. Because the process is complex, uncertain, and relies on data which are estimates, the resulting reserve values are subject to considerable uncertainty and estimation error. The use of estimates such as this is not uncommon in financial accounting, as estimates are frequently used when financial information subject to uncertainty provides relevant data points for users of financial information. Central to the accounting estimation process, however, is the presumption that accounting estimates will be unbiased and made in good faith.

Random error is an inherent and unavoidable aspect of the reserve estimation process, and cannot be eliminated. However, for reserve estimates to be an effective source of information for external constituencies, this information must be free of bias or intentional error. Because of the uncertainty associated with reserve calculations,

additional information often becomes available that prompts adjustments of reserve estimates to reflect new and revised information. If that information is incorporated in the reserve estimates in a timely and unbiased fashion, the adjustments are treated prospectively. However, if reserve estimates are known to have changed, and companies fail to adjust reserve estimates to reflect known changes in the underlying fact pattern, the disclosed reserves are problematic because they do not portray the best estimate of the company's reserves at the time they are reported. Thus, the most significant challenge associated with oil and gas reserve estimates lies not in the use of estimates, but in ensuring that the estimates are made in good faith and accurately reflect the most recent information about a company's reserves. If the disclosed reserves do not meet these constraints, then the value of the information is significantly diminished.

Importance of Internal Controls in the Reserve Estimation Process

If reserve estimates are found to have been biased and not made in good faith, it may lead to significant subsequent restatement of financial information. In these situations, the accounting rules have little influence on the ultimate outcome, because the errors were the result of a breakdown in the reporting process for reserve estimates, as opposed to a poorly functioning accounting rule. The more salient question to consider in this case is what steps could have been taken that would have reduced the chances of presenting reserve estimates that do not accurately reflect the underlying data set and fact pattern?

I would argue that the most effective remedy for this problem is not to focus on the accounting rules surrounding reserve estimates, but to improve the procedures

surrounding the reporting and determination of those reserve estimates. This can be accomplished through several possible actions, including: (1) insuring that companies have in place a well developed and well functioning internal control system surrounding the calculation and reporting of reserve estimates, (2) conducting an independent audit of oil and gas reserve estimates, and (3) limiting the amount of performance based compensation that is tied to reserve balances. Focusing on process oriented solutions such as this would, in my opinion, have the greatest impact on improving the quality and usefulness of oil and gas reserve information.

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