

Panel IV.
**The New SEC Oil and Gas Reserves
and Disclosure Rules**

A Discussion of SEC Release No. 33-8995

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Panelists

- Kelly B. Rose, Partner, Baker Botts LLP
- Delores J. Hinkle, Director, Corporate Reserves, Marathon Oil Company
- Don P. Roesle, Chief Executive Officer, Ryder Scott Company Petroleum Consultants
- James M. Prince, Partner, Vinson & Elkins LLP

Final SEC O&G Rules - Overview

- Includes non-traditional extraction as oil and gas activity – tar sands, oil shales (previously mining)
- Revises reserves and related definitions with revised pricing
- Revises tabular reserves presentation and expands analytical disclosures
- Adopts third party reserve reports standards and filing requirement for third party summary reports
- Adds reserves estimation background, technology and internal controls disclosures
- Includes more detailed geographic coverage of reserves and production
- Permits optional probable/possible reserves disclosures and reserves “alternate case” sensitivity analyses with proper disclosures

Enhanced Oil and Gas Disclosures

- Expanded proved undeveloped reserves analyses
 - *Narrative disclosure of PUD “aging”, development plans and material changes – need to justify development time of more than 5 years*
- Geographic “granularity” – *most disclosures grouped by “geographic area” (country, groups of related countries or continent, as most appropriate); reserves reporting for each country with >15% total reserves (unless legally prohibited); 3 yrs production history to include each country and individual field with >15% total reserves*
- More detailed specifics - *property and acreage description; 3 yrs production costs and sales; drilling activity; current activities; delivery commitments (3 yr forward looking)*
- Reserves “MD&A” –*guidance as to specific disclosures and analysis of material reserves revisions and significant changes in O&G operations*

Accounting Issues

- Reserve estimates integral in accounting – depletion cost, asset impairments and supplemental oil and gas accounting disclosures (SFAS 69)
- New full-cost accounting rules related to oil and gas reserves to use price based on 12-month average
- FASB authorized drafting of accounting standards update to align timely with new rules for year end 2009 adoption.

Need for Further SEC Guidance ASAP!

- Need for interpretations – Staff FAQ project
- Interpretation by comment letters – a very slow process; enormous data dump on Staff
- Uncertain status of Dr. Lee unofficial commentary
- Current access to Staff
- Recent Staff review experiences – 5 year PUD challenges

The “New” Proved Reserves

- Pricing
- Economic Producibility
- Reasonable Certainty
- Development Plan sanction

The “New” Proved Reserves (Cont.)

Pricing – unweighted 12 month first day of the month average

- What is first day of month?
- Inactive markets and lack of appropriate price indicators
- Adjusting for differentials and foreign exchange
- Effects of historical average pricing in rising/falling markets
- Problems now possibly 12 times as big
- Pricing convention likely applicable to Probable and Possible
- Accounting: Full cost change made by SEC rule; FASB US GAAP change pending, IFRS status uncertain.

The “New Proved Reserves (Cont.)

Economic Producibility

- Revenue must exceed, or be reasonably expected to exceed, operating costs
- Support by analogy or “reliable technology” absent flow test
- Project standalone analysis vs using ancillary revenues and cost sharing

The “New” Proved Reserves (Cont.)

Reasonable Certainty – “high degree of confidence” or 90% probability

- Is it really the same as SPE PRMS standard?
- Problems with probabilistic approaches
- Reliable Technology as a means of proving reasonable certainty
 - *What will SEC require to document consistent and repeatable technology performance?*
 - *How many data points?*
 - *Will each company be required to individually document reliability of same technology? (disadvantage for smaller companies)*

The “New” Proved Reserves (Cont.)

- Development plan sanction
 - Financing as a reasonable expectation
 - Five year presumptive time horizon

Proved Undeveloped Reserves - The New Frontier?

- “Liberalized” spacing requirements – reasonable vs absolute certainty
- Five year development cutoff expanded under “specific” circumstances
 - What will SEC require to document “specific” circumstances?
 - Must each company individually demonstrate specific circumstances?
 - Unintended consequences: companies forgo opportunities for long term technology improvements or higher return projects to continue PUD harvest to avoid potential PUD write off
 - Will a further demonstration of financibility be required?
 - What will be 2009 booking impact of PUD five year “report card” disclosures?

Proved Undeveloped Reserves - The New Frontier? (Cont.)

- Hypothetical examples:
 - blanket resource play with large acreage positions;
 - large offshore project with multi-year capital commitments
 - frontier development dependent on large multi-year infrastructure projects
 - tertiary recovery project using analogous project data from separate field
 - oil sands – what is undeveloped?

Probable and Possible Reserves – Optional Disclosure

- Probable and Possible Reserves permitted in SEC filings at company option
 - Uncertainty, developed status and geographic details required
 - As final rules written:
 - Unweighted 12-month average pricing rules likely applies to Probable and Possible
 - Probable and Possible Undeveloped Reserves must be:
 - “reasonably certain of production when drilled”, in direct conflict with probable and possible reserves definitions provided
 - Developed within 5 years unless “certain circumstances” justify a longer time
 - Must be “Economically Producing” versus SPE standard of “commercial”
- Not clear whether SEC will permit adding reserve categories to present as aggregated total reserves

Probable and Possible Reserves – Optional Disclosure (cont)

- Optional use of “alternate case” sensitivities – escalated price and improved costs must be disclosed
- Liability and comparability concerns exist regarding previously publicly disclosed probable or possible reserves developed using
 - differing pricing and spacing assumptions
 - estimated differing standards
- The non-proved E&P IPO – a reality?

Publishing Non-reserve (Resource) Estimates

SEC definition of “resources” – in-place volumes from discovered and undiscovered accumulations

- SEC considers “too speculative” for SEC filings
- Nomenclature has not been standardized – EUR, resource potential, upside, etc.
- Anticipate continued use in investor presentations, press releases and road shows
- Need for caveats, explanations and disclaimers in public releases

Issues for International O&G Disclosure

- Applicable to foreign SEC filers
(Canadian MJDS filings presumably excepted)
- Continues to conflict with other established international reserve disclosure standards
- International accounting standards (IFRS) supported by SEC though new SEC O&G rules not coordinated
- Task force in process of developing IFRS oil and gas accounting rules – may conflict with SEC proposals

The Role of Independent and In-house Engineers

- Requirements for filing third party reports
- Mandated coverage in third party reports – *will reports or audit/process letters change?*
- Background disclosure on third party engineers and primary in-house technical person responsible for estimates
- SEC compliant 3P reports
- Preparation of “alternate case” reports
- Adoption/ revision of internal controls and procedures for reserves reporting
- Impact on comfort letters and expert consent process

Advice on Preparing for the New Rules

- Monitor status and content of O&G accounting exposure draft
- Discuss reserves changes (PUD, 2P, 3P) and process with engineers immediately – prepare for filing outside reports
- Review and formalize reserves estimation process and internal controls for disclosure; revise and update as necessary
- Establish systems for appropriate data retrieval for expanded disclosures
- Prepare 10-K templates for disclosure of O&G reserves and operations, reserves “MD&A,” PUD report card, engineer background, reserves controls and process disclosure
- Decide on non-proved reserve disclosure policy, nomenclature and revise caveat/disclaimer language
- Consider early warning disclosures of pending changes
- Educate management and investors!

Appendix - New SEC Reserves Definitions

Definitions – “Reserves”

“Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be **economically producible**, as of a given date, by application of **development projects** to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.”

*SEC Note: Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as **economically producible**. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective **resources** (i.e., potentially recoverable **resources** from undiscovered accumulations).*

Terms highlighted in red are defined under new rules.

Definitions – “Reserves” – Key Defined Terms

- Development project. A development project is the means by which petroleum **resources** are brought to the status of **economically producible**. As examples, the development of a single reservoir or field, an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership may constitute a development project.
- Economically producible. The term economically producible, as it relates to a **resource**, means a **resource** which generates revenue that exceeds, or is reasonably expected to exceed, the costs of the operation. The value of the products that generate revenue shall be determined at the **terminal point** [as defined in Instruction 1 to the defined term “**oil and gas producing activities**.”]
 - SEC: This term was chosen over PRMS “commerciality” which introduces subjective rates of return that reduce comparability.

Terms highlighted in red are defined under new rules.

Definitions – “Proved Oil and Gas Reserves”

“Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with **reasonable certainty** to be **economically producible**—from a given date forward, from known reservoirs, and under **existing economic conditions**, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is **reasonably certain**, regardless of whether **deterministic** or **probabilistic methods** are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be **reasonably certain** that it will commence the project within a reasonable time.”

Terms highlighted in red are defined under new rules.

Definitions – “Proved Oil and Gas Reserves”

- “(i) The area of the reservoir considered as **proved** includes:
- (A) The area identified by drilling and limited by fluid contacts, if any, and
 - (B) Adjacent undrilled portions of the reservoir that can, with **reasonable certainty**, be judged to be continuous with it and to contain **economically producible** oil or gas on the basis of available geoscience and engineering data.”
- (ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and **reliable technology** establishes a lower contact with **reasonable certainty**.”
- (iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and **reliable technology** establish the higher contact with **reasonable certainty**.”

Terms highlighted in red are defined under new rules.

Definitions – “Proved Oil and Gas Reserves”

“(iv) Reserves which can be **produced economically** through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:

(A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an **analogous reservoir**, or other evidence using **reliable technology** establishes the **reasonable certainty** of the engineering analysis on which the project or program was based; and

(B) The project has been approved for development by all necessary parties and entities, including governmental entities.”

Terms highlighted in red are defined under new rules.

Definitions – “Proved Oil and Gas Reserves”

“(v) Existing economic conditions include prices and costs at which **economic producibility** from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

*Note: Only reference to 12-month average historical pricing is in definition of “**proved** oil and gas reserves.” Commentary in final rule release suggests average pricing convention is intended to be applicable to all reserve categories. Alternate pricing cases and sensitivities, however, may be presented.*

Terms highlighted in red are defined under new rules.

Definitions – Proved Reserves – Key Defined Terms

- “Reasonable certainty. If **deterministic methods** are used, reasonable certainty means a high degree of confidence that the quantities will be recovered. If **probabilistic methods** are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. A high degree of confidence exists if the quantity is much more likely to be achieved than not, and, as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to **estimated ultimate recovery (EUR)** with time, reasonably certain **EUR** is much more likely to increase or remain constant than to decrease.”
- “Reliable technology is a grouping of one or more technologies (including computational methods) that has been field tested and has been demonstrated to provide **reasonably certain** results with consistency and repeatability in the formation being evaluated or in an **analogous formation**.”

Terms highlighted in red are defined under new rules.

Definitions – Probable and Possible Reserves

“**Probable reserves** are those additional **reserves** that are less certain to be recovered than **proved reserves** but which, together with **proved reserves**, are as likely as not to be recovered. . . . When **deterministic methods** are used, it is as likely as not that actual remaining quantities recovered will exceed the sum of estimated **proved** plus **probable** reserves. When **probabilistic methods** are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the **proved** plus **probable reserves** estimates . . .”]

“**Possible reserves** are those additional **reserves** that are less certain to be recovered than **probable reserves**. . . . When **deterministic methods** are used, the total quantities ultimately recovered from a project have a low probability of exceeding **proved** plus **probable** plus **possible** reserves. When **probabilistic methods** are used, there should be at least a 10% probability that the total quantities ultimately recovered will equal or exceed the **proved** plus **probable** plus **possible reserves** estimates. . .”

Terms highlighted in red are defined under new rules.

Definitions – “Developed Oil and Gas Reserves”

“Developed oil and gas reserves are **reserves** of any category that can be expected to be recovered:

- (i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and
- (ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.”

Terms highlighted in red are defined under new rules.

Definitions – “Undeveloped Oil and Gas Reserves”

“Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

(i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are **reasonably certain** of production when drilled, unless evidence using **reliable technology** exists that establishes **reasonable certainty** of **economic producibility** at greater distances.

(ii) Undrilled locations can be classified as having undeveloped reserves only if a **development plan** has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

(iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an **analogous reservoir**, as defined in [this rule], or by other evidence using **reliable technology** establishing **reasonable certainty**.”