



## **So we have new SEC reserves rules – what do we do now?**

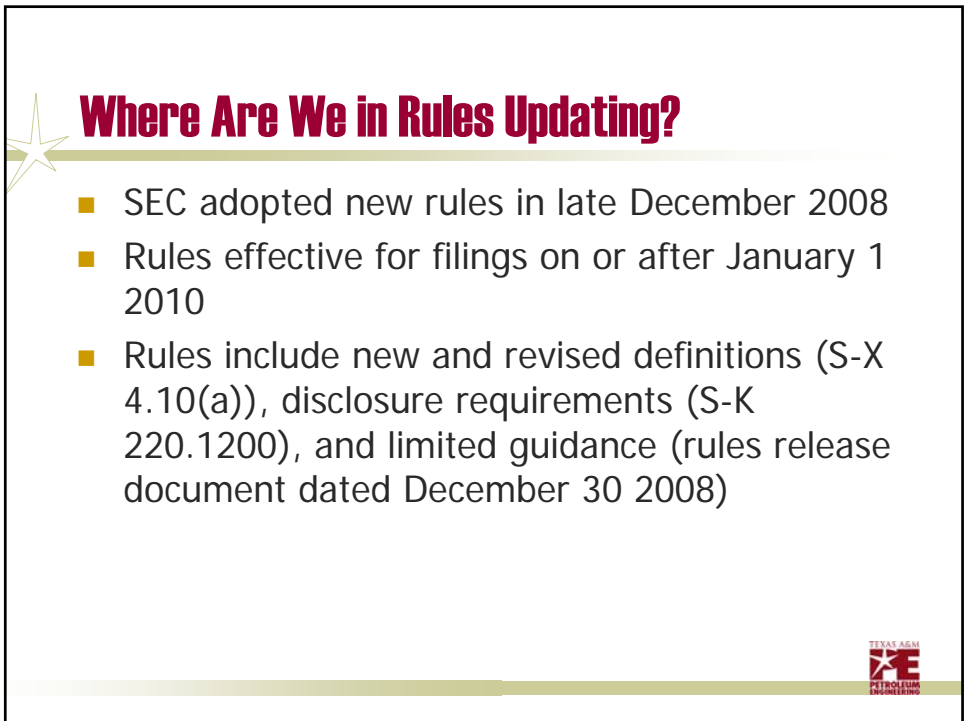
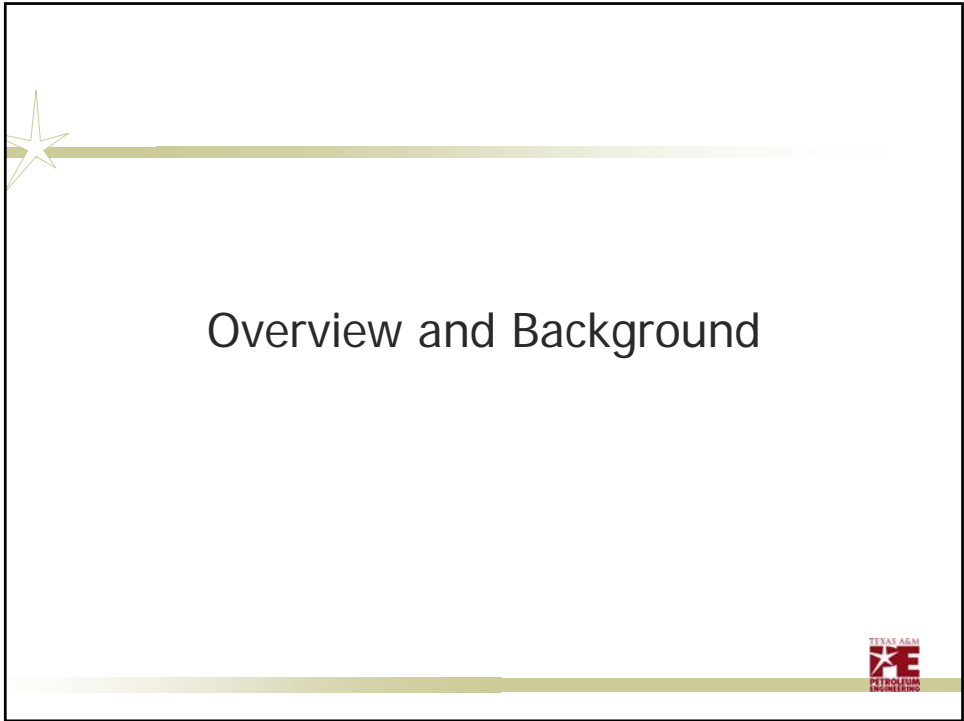
Presented to 2009 Ryder Scott Reserves  
Conference  
8 May 2009  
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## **Disclaimer**

Opinions expressed in this presentation  
are mine alone; they represent neither  
the opinions of the Securities and  
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members.







## How Did We Get Here?

- Industry, investor representatives, governmental agencies called increasingly for updated rules in recent years – previous rules adopted in 1978-1982 era
- SEC retained me as “academic engineering fellow” in October 2007, charged me with coordinating rules updating project



## What Happened Next?

- Following discussions with SEC accountants, lawyers, engineers, and managers, we issued “Concept Release” in December 2007 and asked public what changes, if any, were needed in reserves reporting rules
- Accepted responses to Concept Release for 60 days





## And Then?

- Studied comments and used them as basis for “Proposing Release” issued in June 2008, with comments accepted for 60 days
- Comments to proposing release provided basis for final rules, approved by SEC on December 29, 2008, and issued in “Adopting Release”



## Changes Advocated by Many Adopted

- Average price replaced fiscal year-end price (used to establish economic producibility)
- Mining bitumen defined as oil and gas activity
  - Bitumen qualifies as oil reserves when it meets other criteria – as do several other non-traditional, non-renewable natural resources from which synthetic oil, gas can be extracted





## **Other Changes Broadly Advocated Adopted**

- Rigidly specified technologies, such as flow tests to support economic producibility, replaced by more flexible technologies that support certainty levels required for reserves disclosures
- “Certainty” criterion for PUDs replaced with “reasonable certainty” criterion



## **Changes Advocated by Some, Tolerated by Others**

- Optional disclosure of probable, possible reserves in SEC filings allowed
- Optional disclosure of sensitivity of reserves to alternative price, cost schedules allowed





## **SEC Position on Other Issues Clarified – Maybe**

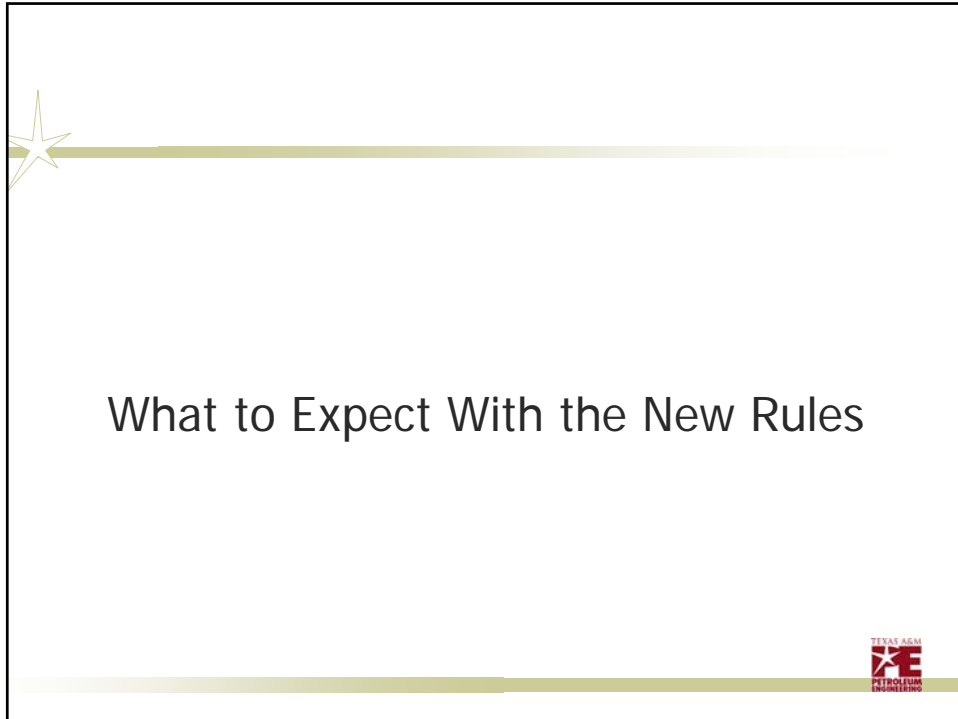
- Probabilistic reserves estimates allowed (not new), mentioned frequently
- Phrase “reasonable certainty” retained in definitions (in deference to PRMS), tied intuitively to probabilistic criterion (90% probability), related to likelihood (much more likely than not)



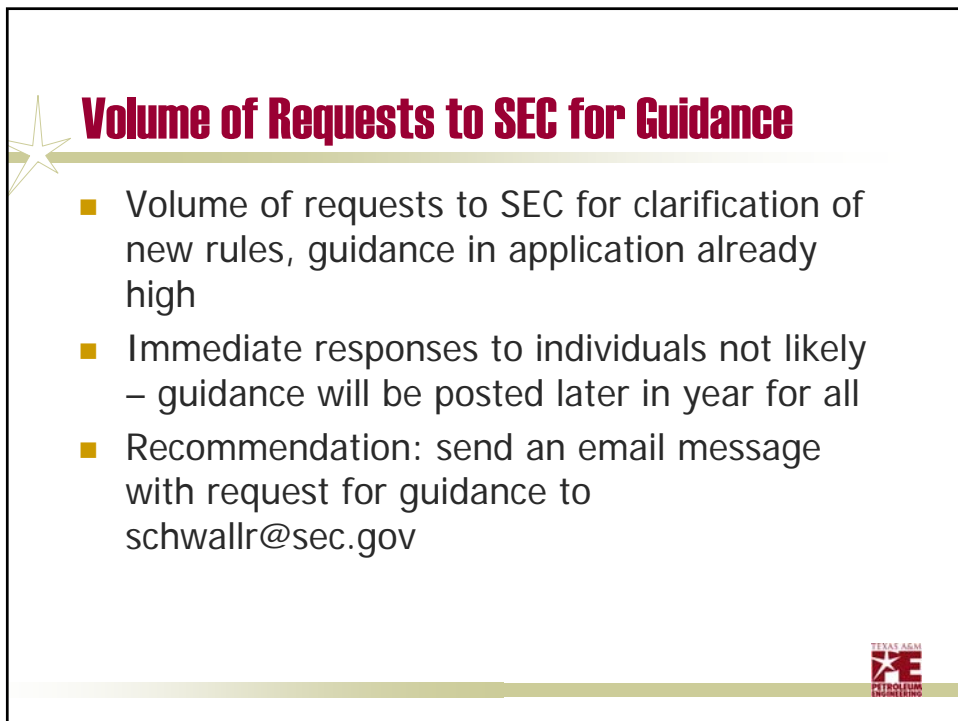
## **SEC Position on Other Issues Still Unclear**

- Clarification likely to be provided through guidance (on-line) later in year
- Issues include, as examples, probable and possible undeveloped reserves and evidence required to support them





## What to Expect With the New Rules



### **Volume of Requests to SEC for Guidance**

- Volume of requests to SEC for clarification of new rules, guidance in application already high
- Immediate responses to individuals not likely – guidance will be posted later in year for all
- Recommendation: send an email message with request for guidance to [schwallr@sec.gov](mailto:schwallr@sec.gov)





## Probable and Possible Reserves Outlook

- Most large operators will probably not disclose reserves other than proved
- Smaller operators appear to be much more interested in disclosing probable and possible reserves



## Proved Undeveloped Reserves Outlook

- Significant increases in disclosures of PUDs from locations beyond immediate offsets expected
- Filers with plans for these disclosures should be assembling evidence to support claims
  - Empirical proof (drilling results) of success of offsets distance claimed from control points vital
  - Demonstrated ability to fund all PUDs claimed also vital







## **Unproved, Undeveloped Reserves Outlook**

- Significant volumes of undeveloped probable and possible reserves disclosures expected, but not by largest filers
- Empirical evidence to support “likely as not” and “possible, but not likely” outcomes needed



## **Establishing Economic Productivity**

- Alternatives to flow tests or production to surface likely to increase
- Approach approved for deep-water Gulf of Mexico likely to be adopted more widely (combination of core and log data, wireline tests, seismic)
- Empirical support for technologies used required, as for GOM





## **Technologies to Determine Fluid Contacts**

- Direct observation in wellbores of lowest known hydrocarbons, highest known oil no longer required
- Alternative technologies allowed to establish fluid contacts or increased volumes of hydrocarbons in place
- Empirical support for method used essential – must have repeatedly led to correct decision about appropriate level of certainty



## **Reserves in Improved, Enhanced Recovery Projects**

- Increased use of alternative technologies to establish required certainty levels for support of reserves claims expected
- Empirical evidence to support validity of decisions based on technology required





## How Filers Can Start Now to Implement New Methods Productively



### **Establish Uniform Standards for Likelihoods**

- Standards for reserves categories
  - Proved: much more likely than not
  - Probable: as likely as not
  - Possible: not likely, but possible
- Possible starting point for deterministic estimates: low, most likely, high estimates
- Detailed suggestions in COGEH provide excellent assistance (but filer should take into account clear differences in SEC and Canadian rules, such as base-case economics)



## **Collect Empirical Evidence Supporting “Reliable Technology”**

- Start collecting empirical evidence that “reliable technologies” have truly proved to be reliable in formation of interest (or in analogous formation) as basis for resource classification and categorization
  - Ensure you can defend sample size as adequate
  - Ensure you have solid evidence of continuity of economic producibility for PUDs in all directions from control point for which PUDs are claimed and to distance claimed



## **Be Wary of Previously Published Guidance**

- Best practices for guidance previously published by SEC
  - If in conflict with new rules, assume it will be rescinded later this year
  - If consistent with unchanged parts of rules, assume it will remain in place in future





## **Don't Discard All Previously Published SEC Rules**

- Best practices for rules previously published by SEC
  - Assume that previous rules not addressed by new rules will remain in effect
  - Assume that proper interpretation of previous rules will be same in future as in past



## **Note Qualifications, Independence Disclosures**

- New rules require disclosure of qualifications, independence of principal technical person in charge of reserves estimates (internal or external) and of external audits
- No specific qualifications or independence standards required
- Disclosures intended to incentivize filers to assure investors that qualified and independent people have estimated and audited reserves





## Unlikely SEC Actions in Near Future

SEC unlikely

- To accept SPEE offer to provide US equivalent of COGEH
- To endorse guidelines proposed by any technical society for reserves estimations procedures
- To resume role in SPEE workshops dealing with reserves rules
- To allow disclosure of non-reserves resources in filings
- To allow use of other than fixed, current prices in "base case" reserves estimations

... so don't count on any of these in planning actions



## Additional Insights into Disclosure Requirements for Proved and Unproved Reserves





## More Specific Location of Reserves Required

- “By continent” largest subdivision of worldwide reserves
- Countries with >15% BOE proved reserves to be identified unless prohibited or unless would provide *de facto* identification of field
- Countries with >15% BOE production also to be identified unless prohibited
- Disclosure of individual fields with proved reserves above some threshold not required because of potential competitive harm or violation of contracts
- Disclosure requirements intended to help investors identify concentrated political risk



## Disclosing Product Types

- More detail required for product types to distinguish between products with different characteristics
- Separate disclosure required for
  - Oil
  - Gas
  - Synthetic oil
  - Synthetic gas
  - Sales products from other non-renewable resources intended to be converted into synthetic oil or gas





## Separate Disclosure of Reserves by Category

- Proved, probable, and possible reserves are to be disclosed separately, even though sums of reserves in different categories may be the result of the estimation procedures used
- Filers should ensure that investors understand increasing uncertainty of outcome in the unproved categories



## Aging of PUDs

- Explanations required for PUDs on books for more than five years but remaining undeveloped
  - Undeveloped reserves on books for longer periods not prohibited as long as they continue to meet criteria to be classified as reserves







## **Codification of Industry Guide 2**

- Most other disclosure requirements in S-K 1200 simply codification of existing Industry Guide 2 requirements



## **Reserves Sensitivity Studies**

- Reserves sensitivity studies provide opportunity to identify for investors contingent resources that could become reserves if current pricing pressures are relieved



## MD&A Guidance

- S-K 1200 contains no explicit disclosure requirements for Management Discussion and Analysis (MD&A) in filers' annual reports
- Text accompanying Adopting Release (section V) provides guidance and suggestions for MD&A



## Summary

- SEC has made major changes in reserves definitions and disclosure requirements
  - New definitions generally more flexible than previous definitions
  - New disclosure requirements more detailed
- Many details for implementation have not yet been clarified, but SEC plans to issue clarification as soon as possible





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