

SEC OIL AND GAS REPORTING REQUIREMENTS: AN ANALYSIS OF THE 2008 REVISION

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I. INTRODUCTION

New oil and gas reporting requirements for publicly traded companies in the United States came into effect on January 1, 2010.¹ The former oil and gas

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requirements were passed in 1933 and 1934, and were last amended in the early 1980s.² Since then, the United States Securities and Exchange Commission (“SEC”) identified numerous reasons for an overhaul of these requirements, such as to make reserve estimation more accurate and to align them with the international industry standards.³ Thus, on December 12, 2007, the SEC proposed modernized regulations, issued a concept release,⁴ and inquired whether to adopt regulations similar to those used by other countries, as well as current industry practices, guidelines, and standards.⁵ The SEC solicited comments and the vast majority of them came from industry professionals who overwhelmingly endorsed bringing international industry guidelines into the SEC rules.⁶ After considering comments of the concept and release of the proposed rules,⁷ on December 29, 2008, the SEC passed the new regulations.⁸ To have a meaningful effect, the SEC regulations must protect investors by removing loopholes in previous regulations that enabled oil and gas companies to commit investor fraud⁹ and that incentivized abuse of reporting standards.¹⁰ The new guidelines must balance investor protection against industry concerns regarding the costs involved with stringent

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1. Modernization of Oil and Gas Reporting, 74 Fed. Reg. 2158 (Jan. 14, 2009) (to be codified at 17 C.F.R. pt. 210, 211, 229, 249) [hereinafter Final Rule].

2. Modernization of Oil and Gas Reporting, 73 Fed. Reg. 39,526, 39,527 (July 9, 2008) (to be codified at 17 C.F.R. pt. 210, 229, 249) [hereinafter Proposed Rule].

3. *Id.* (discussing changes in the market, technology, and the types of projects in which oil and gas invest their capital).

4. Concept Release on Possible Revisions to the Disclosure Requirements Relating to Oil and Gas Reserves, Release Nos. 33-8870, 34-56945, 72 Fed. Reg. 71,610 (Dec. 18, 2007) (to be codified at 17 C.F.R. pt. 210, 229, 231, 241) [hereinafter Concept Release].

5. *Id.* at 71,610, 71,612.

6. *See Comments on Modernization of the Oil and Gas Reporting Requirements*, SEC, Jan. 7, 2009, available at <http://www.sec.gov/comments/s7-15-08/s71508.shtml>.

7. *Id.* at 2158-60.

8. Final Rule, *supra* note 1.

9. *See, e.g.*, Press Release, SEC, SEC Charges Oil and Gas Well Operators for Defrauding Investors (Aug. 28, 2008) (announcing the SEC’s complaint of two sham companies soliciting investors without full disclosure), available at <http://www.sec.gov/news/press/2008/2008-185.htm>. *See also Oil and Gas Investment Fraud*, North American Securities Administrators Association (NASAA), http://www.nasaa.org/Investor_Education/Investor_Alerts_Tips/6076.cfm (last visited Feb. 28, 2009). *See also Save Your Energy and Money—Don’t Fall for Energy Stock Scams*, Financial Industry Regulatory Authority (FINRA), <http://www.finra.org/Investors/ProtectYourself/InvestorAlerts/FraudsAndScams/P037236> (last visited Feb. 28, 2009); *see also Oil and Gas Scams: Common Red Flags and Steps You Can Take to Protect Yourself*, SEC, Aug. 1, 2007, <http://www.sec.gov/investor/pubs/oilgasscams.htm> (last visited Feb. 28, 2009).

10. *See, e.g.*, Cease and Desist Order In re Royal Dutch Petroleum Co. and the “Shell” Transport and Trading Co., Exchange Act Release No. 50,233 (Aug 24, 2004), available at <http://www.sec.gov/litigation/admin/34-50233.pdf> [hereinafter Royal Dutch Sanctions] (noting that Royal Dutch Shell PLC grossly overstated their proved oil and gas reserves).

and highly technical rules. Further, the regulations must avoid holding oil and gas companies to an unreasonable standard of disclosure that is out of sync with the inherent volatility of the market. The new regulations respond to these challenges in various ways.

The new rules were passed in response to the SEC's desire to increase transparency and strengthen investor protection.¹¹ On October 8, 2008, the SEC hosted a roundtable discussion that focused on the proposal of fundamental changes to the United States financial disclosure system as part of its Twenty First Century Disclosure Initiative.¹² The Initiative's goal was to modernize the SEC disclosure system in order to give investors more useful and timely information for investment decision-making.¹³ Further, the SEC has been concerned about selective disclosures and creative accounting by publicly traded companies.¹⁴ Recently much-maligned, the SEC has come under fire for its complacency, its absence, and its role in the current banking crisis and recession.¹⁵ The period from August 3, 2005 to January 20, 2009 represented "one of the most significant periods of dysfunction in the history of the commission."¹⁶ In light of these events, the SEC should avoid making the same mistakes and work to clean up its public image.

Part II begins with a discussion of the SEC's former oil and gas reporting requirements. This section will explain some of the unique characteristics of the industry as well as the stringency of the pre-2010 guidelines. Part III is a detailed analysis of some factors that made the former guidelines obsolete. Part IV

11. The SEC has convened panels to discuss how companies and investors use company disclosures in making their investment decisions and how the SEC can better organize its disclosure systems. Press Release, SEC, SEC Seeks More Transparent Disclosure for Investors (Sept. 25, 2008), available at <http://www.sec.gov/news/press/2008/2008-227.htm>.

12. *Id.*

13. *Id.*

14. Arthur Levitt, Chairman, Sec, *The "Numbers Game,"* Address for the NYU Center for Law and Business, Sept. 28, 1998, available at <http://www.sec.gov/news/speech/speecharchive/1998/spch220.txt> (describing the ways that companies can manipulate accounting and the pressure to do so unethically).

15. The mere mention of the SEC conjures negative images of Christopher Cox and Bernie Madoff. See Adam Zagorin and Michael Weisskopf, *Inside the Breakdown at the SEC*, TIME, Mar. 9, 2009, at 3 (describing ex-SEC chief Christopher Cox as "[t]he man who should have played a major role in sounding the alarm about – and perhaps preventing – America's financial meltdown [and] now stands accused by critics as being asleep on the job."). See also *25 People to Blame for the Financial Crisis*, TIME, Feb. 12, 2009, available at http://www.time.com/time/specials/packages/article/0,28804,1877351_1877350_1877323,00.html (stating Cox' "blindness to repeated allegations of fraud in the Madoff scandal is mind-blowing"); Janet Morrissey, *The Penalty for "Extraordinary Evil: Madoff gets 150 Years*, TIME, Mar. 10, 2009, available at <http://www.time.com/time/business/article/0,8599,1907677,00.html?iid=sphere-inline-sidebar> (describing the demise of "disgraced financier" Bernie Madoff and stating that the fraud he committed was an "extraordinary evil . . . [and] not a bloodless crime").

16. Zagorin and Weisskopf, *supra* note 15, at 36 (quoting Joel Seligman, President of the University of Rochester) (discussing the "Cox years").

examines the recently passed oil and gas reporting requirements. This part evaluates industry guidelines and Canadian requirements, which are among the most comprehensive worldwide—both were models for the United States' new guidelines. Lastly, in Part V, this article discusses the potential shortcomings of the new regulations as well as some preventative measures that the SEC should consider.

This article will show that the revision of the SEC's regulations is appropriate and necessary. However, although the new regulations have been updated and modernized to better serve the needs of investors and the industry, they fall short in terms of practical application. For example, the new regulations give unwarranted deference to the industry, and as a consequence, the new regulations will be enforced in only one of two ways: either they will tailor too much toward industry preference and thereby sacrifice some investor protections, or they will abandon international standards and thereby discard the SEC's effort to create rules that are in line with other countries' requirements. In conclusion, this article argues that if the SEC is to follow industry guidelines, it must take an active role in writing them. Alternatively, the SEC should abandon its efforts to comply with industry standards, focus on protecting American investors, and facilitating capital markets. Ultimately, the industry standards should be used as only a guide in the SEC's effort to update its oil and gas reporting requirements.

II. THE PRE-2010 RULES

A. Overview

The SEC's mission is "to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation."¹⁷ The SEC aims to ensure that all investors "have access to certain basic facts about an investment prior to buying it."¹⁸ In the aftermath of the Great Depression, Congress passed the Securities Act of 1933 and later the Securities Exchange Act of 1934, which created the SEC.¹⁹ These Acts were designed to "restore investor confidence in [the] capital markets

17. The Investor's Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation, SEC, <http://www.sec.gov/about/whatwedo.shtml> (last visited Feb. 28, 2009) [hereinafter The Investor's Advocate].

18. *Id.*

19. Generally, securities sold in the United States must be registered with the SEC and therefore must follow the rules and regulations set by the SEC. *See generally* Securities Act of 1933, 15 U.S.C.A. § 77a (2009). All companies that have at least \$10,000,000 in assets and more than 500 investors must register with the SEC and file various annual reports and financial statements. The Investor's Advocate, *supra* note 17. Once registered, a company can issue securities for sale thereby giving the investor a stake in the company. 15 U.S.C.A. § 77b. For companies, securities are an essential tool for raising capital, which, in the oil and gas industry, is much preferred over having high debts. *The Industry Handbook: The Oil Services Industry*, Investopedia, http://www.investopedia.com/features/industryhandbook/oil_services.asp (last visited Feb. 28, 2009) ("High debt puts a strain on credit ratings, weakening their ability to purchase new equipment or finance other capital expenditures . . . Companies in more stable markets can afford slightly higher debt/equity ratios.").

by providing investors and the markets with more reliable information and clear rules of honest dealing.”²⁰ They serve the same fundamental purpose today.²¹

Certain unique characteristics of the oil and gas industry have led the SEC to adopt industry specific regulations. First, oil and gas companies are often massive corporations.²² Specifically, the oil industry is composed of large companies such as Exxon Mobil and Royal Dutch Shell, most of which operate internationally and have investors that are likewise dispersed throughout the world. In addition, the production of oil and gas involves state-of-the-art technology, analysis, and science,²³ and therefore, the industry is very sensitive to new technological developments.

Furthermore, oil is a matter of national security. The United States is simultaneously in conflict with oil producing countries and dependent on importing oil from them.²⁴ Related concerns include that fact that the oil and gas industry is highly volatile, in that the market price of oil fluctuates frequently,²⁵ and the political stability of oil producing countries is fragile.²⁶ Finally, the price of oil has risen steadily over the last decade,²⁷ making oil and gas very lucrative investment opportunities for both legitimate and fraudulent enterprises.²⁸ Investor’s eagerness to throw money at oil and gas companies makes the industry vulnerable to fraud,²⁹ as many are jumping at any opportunity to invest in the oil market, and it is thus easy for sham companies to set up shop, take the money, and disappear.³⁰

20. The Investor’s Advocate, *supra* note 17.

21. *See generally* Securities Exchange Act of 1934, 15 U.S.C.A. §§78a-78p (2009).

22. *See* Investopedia, *supra* note 19 (“[F]ossil fuels . . . make[] up more than 85% of the energy consumed in the U.S. as of 2008). A company must have \$10,000,000 in assets to even be allowed to publicly trade securities. The Investor’s Advocate, *supra* note 17.

23. *See* Investopedia, *supra* note 19; *see generally* Hussein Alboudwarej et al., *Highlighting Heavy Oil*, SCHLUMBERGER OILFIELD REVIEW, Summer 2006, at 36-53, *available at* http://www.slb.com/media/services/resources/oilfieldreview/ors06/sum06/heavy_oil.pdf (describing techniques involved in excavating alternative oil sources).

24. COUNCIL ON FOREIGN RELATIONS, NATIONAL SECURITY CONSEQUENCES OF U.S. OIL DEPENDENCY, (2006), *available at* <http://www.cfr.org/content/publications/attachments/EnergyTFR.pdf>.

25. *Id.*

26. *Id.*

27. Peter J. Newman and Victor A. Burk, *Presenting the Full Picture: Oil and Gas: Reserves Measurement and Reporting in the 21st Century*, DELOITTE, 2005, *available at* [http://www.deloitte.com/assets/Dcom-Albania/Local%20Assets/Documents/al_oil_gas_full_picture_english\(1\).pdf](http://www.deloitte.com/assets/Dcom-Albania/Local%20Assets/Documents/al_oil_gas_full_picture_english(1).pdf) (“Strong oil demand growth, coupled with the tightest oil supplies in over 25 years, caused oil prices to surge upwards...Against the backdrop of higher oil and gas prices and tight oil and gas supplies, there was renewed anxiety about political instability in some of the key producer counties and the related vulnerability to short term supply disruptions.”).

28. *See, e.g., Oil and Gas Investment Fraud, supra* note 9; *Save Your Energy and Money – Don’t Fall for the Energy Stock Scams, supra* note 9; *Oil and Gas Scams: Common Red Flags and Steps You Can Take to Protect Yourself, supra* note 9.

29. *Oil and Gas Investment Fraud, supra* note 9; *Save Your Energy and Money – Don’t Fall for the Energy Stock Scams, supra* note 9; *Oil and Gas Scams: Common Red Flags and Steps You*

Pre-2010 SEC oil and gas reporting requirements were contained in the Securities and Exchange Commission Regulations S-X³¹ and S-K.³² These regulations were “rules-based” regulations.³³ A “rules-based” approach, as opposed to a “principles-based” approach, is generally less flexible: it is less adaptable to new technologies and developments, even though the regulations are purported to align with current, broadly accepted definitions in the industry and markets.³⁴ Although the rules use standards such as “reasonable certainty”³⁵ that allow for certain types of projected oil and gas production and extraction, the application of those principles are limited to rules regarding proving the existence and amounts of oil and gas reserves in existing reservoirs.³⁶ As a protection against incorrect or fraudulent reporting, the former rules restricted reporting any oil or gas unless the oil or gas was proven to exist.³⁷

As shown in Table 1 (*see* Appendix A),³⁸ there are a number of different ways that oil and gas can be reported. Categories can be based on in-place oil and gas, or economically or commercially available reserves.³⁹ However, the most common

Can Take to Protect Yourself, *supra* note 9.

30. *See, e.g., Save Your Energy and Money – Don’t Fall for the Energy Stock Scams*, *supra* note 9 (giving tips on how to avoid illegitimate companies); *Oil and Gas Investment Fraud*, *supra* note 9 (warning investors about scams in the oil industry); Press Release, SEC, Royal Dutch Petroleum Company and the “Shell” Transport and Trading Company, P.L.C. Pay \$120 Million to Settle SEC Fraud Case Involving Massive Overstatement of Proved Hydrocarbon Reserves (Aug. 24, 2004), *available at* <http://www.sec.gov/news/press/2004-116.htm> [hereinafter SEC Press Release, Royal Dutch/Shell] (describing a situation where Royal Dutch Shell PLC defrauded investors by overstating oil).

31. 17 C.F.R. § 210 (2009).

32. *Id.* § 229.

33. While some systems of disclosure allow flexibility regarding test results, the SEC rules have mandatory tests and bright-line judgments based on those tests. SOCIETY OF PETROLEUM ENGINEERS, “MAPPING” SUBCOMMITTEE FINAL REPORT, COMPARISON OF SELECTED RESERVES AND RESOURCE CLASSIFICATIONS AND ASSOCIATED DEFINITIONS, 11 (2005), *available at* http://www.spe.org/spe-site/spe/spe/industry/reserves/OGR_Mapping_Final_Report.pdf [hereinafter SOCIETY OF PETROLEUM ENGINEERS].

34. *Id.*

35. 17 C.F.R. § 210.4-10(a)(2); 17 C.F.R. § 210.4-10(a)(4).

36. SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 11.

37. *See* Cambridge Energy Research Associates, *Modernize U.S. Oil & Gas Reserves Reporting Standards*, Mar. 17, 2005, IHS, <http://energy.ihs.com/news/petrochemicals/2005/cera-us-oil-gas-reporting-standards.htm> (“The 1978 System was really made for an oil industry whose map was centered in what might be called ‘Texlahoma’—a conceptual composite of Texas, Louisiana, and Oklahoma that describes the heart of the conventional US [sic] oil patch.” (quoting David Hobbs, CERA’s Director of E&P Strategy)).

38. SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 10 tbl.2.

39. A project is economically available if project income will cover the cost of development and operations (at zero discount rate) and is commercially available if there is intent to develop and some element of positive economics. SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 27. In-place oil and gas is the total hydrocarbon content of an oil or gas reservoir. *Id.* at 37. The Chinese system allows for in-place categorization as well as the economically processable oil and gas. *Id.* at 11, 16-17. Generally, all other countries only allow reporting for economically/commercially available reserves. *Id.* Thus, for example, oil in Anwar cannot be reported unless regulations are changed that allow it. Although it is known that oil exists in

categories are based on probabilities of recovery.⁴⁰ There are two reasons for such categorization: first, oil and gas reserves are not resources that have been physically extracted from their reservoirs; and second, oil and gas reserves are measured using scientific estimates and not actual volume measurements.⁴¹ In other words, oil and gas reserves are measured by scientific probabilities of existence and not by physically counting barrels of extracted oil.⁴² The former SEC rules evaluate oil and gas reserves on economic variables and on a single probabilistic category: proven oil and gas.

Although “rules-based” standards can be flexible, they hinder the reporting of alternative oil and gas deposits that require newer production techniques.⁴³ Under the pre-2010 regulations, the SEC lacked a system for reporting those types of techniques and resource deposits because they did not fit the regulation’s definition of “proved.”

B. Pre-2010 SEC Reporting Requirements

Pre-2010 SEC oil and gas reporting requirements were adopted over a quarter-century ago and are widely considered the most restrictive in the world.⁴⁴ The SEC rules and guidelines allowed only “proved reserves” to be reported,⁴⁵ while other major industrial countries allow reporting of a far greater range of sources of oil reserves. Proved reserves are “the estimated quantities of crude oil, natural gas, and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from

Anwar, it is not economically available to use due to regulatory restrictions.

40. SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 11 (showing that most other regulatory systems allow disclosure of probable, possible, and proved reserves based on different probabilities of oil present in reservoirs).

41. Cambridge Energy Research Associates, *supra* note 37 (“In Search of Reasonable Certainty describes reserves as an approximation - estimates derived from a complex combination of direct evidence, expert interpretation, a variety of scientific methodologies and experience-based assumptions about the future, often stated in terms of probabilities.”).

42. *Canada’s new standard of reporting oil and gas reserves is leading the way*, DELOITTE, Feb. 12, 2008, <http://www.deloitte.com/dtt/article/0,1002,sid%253D3644%2526cid%253D81477,00.html> [hereinafter DELOITTE] (last visited Feb. 28, 2009) (quoting Cheryl Dereniwski of Deloitte’s Oil and Gas practice) (“By its very nature, reserve reporting is inexact since ‘reserves are only estimates.’”).

43. *See, e.g.*, SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33. Also, this is one of the main reasons that the SEC updated its reporting requirements. *See* Concept Release, *supra* note 4, at 71, 612 (discussing advances in technology that did not exist when the current rules were passed in 1978); Proposed Rule, *supra* note 2, at 39527-28 (remarking on the overwhelmingly positive response to updating the rules to allow for a broader use of technology in estimating oil reserves).

44. SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 11.

45. 17 C.F.R. § 210.4-10 (2009).

known reservoirs under existing economic and operating conditions.”⁴⁶ Reserves of oil or gas are considered “proved” if they are economically recoverable.⁴⁷

Pre-2010 oil and gas regulations prohibited a company from reporting any reserves that were not “proved” by the standard outlined above. Even if reserves are “proved,” they were not reportable *per se*. The pre-2010 rules required proved “developed” reserves, which were “reserves that can be expected to be recovered through existing wells with existing equipment and operating methods,”⁴⁸ and which must be proven to a degree of “reasonable certainty.”⁴⁹ Proved “undeveloped” reserves must meet a standard of certainty when drilled in order to report the expected result of that drilling.⁵⁰

These former rules reflected the SEC’s concern that technology used by the oil and gas industry gave unreliable measurements for reporting amounts of oil claimed by oil and gas companies, which could affect the value and return on investors’ assets.⁵¹ Consequently, there were numerous existing sources of oil that were not classified as proved reserves under the rules, and could not be reported.⁵² When the pre-2010 regulations were passed, they prevented companies from reporting reserves information with unreliable technology, thereby allowing an oil company to project greater than actual profits because costs associated with unproven reserves were not reported.⁵³

Another concern addressed by the former SEC rules was a desire to protect investors from misleading information of reserves as potential profit, when in actuality, the oil and gas companies did not intend to recover those reported reserves. Thus, the regulations prevented reporting reserves unless they “demonstrate with reasonable certainty [that the oil will] be recoverable in future years from known reservoirs under existing economic and operating conditions.”⁵⁴ Oil in reservoirs had to meet qualification standards, and was not automatically considered proved; such resources were only considered proved if economic productivity was supported by certain specifically approved tests.⁵⁵

46. *Id.*

47. *Id.* § 210.4-10(a)(2)(i)-(ii).

48. *Id.* § 210.4-10(a)(3).

49. *Id.* § 210.4-10(a)(2). Reasonable certainty is not defined in the rule but has been interpreted by the SEC to mean “a level of certainty such that, as more information about a reservoir becomes available, it is more likely than not that they additional data will confirm or enhance the company’s original estimate of the quantity it can ultimately recover.” Concept Release, *supra* note 4, at 71, 611.

50. 17 C.F.R. § 210.4-10 (a)(4)(2009).

51. Excerpt from Current Issues and Rulemaking Projects Outline, SEC, (Nov. 14, 2000), available at <http://www.sec.gov/divisions/corpfin/guidance/cfoilgasinterps.htm>.

52. Press Release, *supra* note 9.

53. “When the Commission adopted the proved reserves definitions in 1978, the only effective way to extract these compounds was through traditional mining techniques.” Concept Release, *supra* note 4, at 71, 612.

54. 17 C.F.R. § 210.4-10(a)(2).

55. *Id.* § 210.4-10(a)(2)(ii).

Even if reserves were proved, they were not included in reporting if they were “subject to reasonable doubt because of uncertainty as to . . . economic factors.”⁵⁶ In November 2000, the SEC stated that “economic uncertainties such as the lack of a market . . . uneconomic prices and marginal reserves that do not show a positive cash flow . . . can also prevent reserves from being classified as proved.”⁵⁷ For example, if gas was found in frontier Australia (an area that has historically not produced gas to the market), that gas could not be reported as proved for two reasons: there is no established market, and there is no pipeline or transport for the gas to be moved to areas where it can be sold and used.

C. “Proving” Oil and Gas Reserves: The Level of Certainty Required

Unless the oil and gas deposits and reserves were proven, they were specifically prohibited from being disclosed.⁵⁸ For instance, shale and oil sands were not “proved reserves” under the rules because oil from those sources does not come from a well, nor were they measurable by the specific testing required by the SEC’s former guidelines. Those stringent guidelines have been criticized by the industry.⁵⁹ In addition, some have even stated that the high standard for proved undeveloped reserves have rendered such oil and gas un-reportable and, therefore, the standard may as well be absolute certainty and not reasonable certainty.⁶⁰ The standard applied to sources that come from non-traditional resources such as slate and oil sands,⁶¹ and other deposits is “subject to reasonable doubt because of uncertainty as to geology[] [and] reservoir characteristics.”⁶² However, state of the

56. *Id.* § 210.4-10(a)(2)(iii).

57. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51.

58. UNFPA: UNFPA in the UN System, <http://149.120.32.2/about/unsystem.htm>, (last visited Mar. 1, 2009).

59. *See, e.g.*, Christopher Hope, *Oil Majors Back Attack on SEC Rules*, THE DAILY TELEGRAPH (London), Feb. 24, 2005, available at <http://www.telegraph.co.uk/finance/2906565/Oil-majors-back-attack-on-SEC-rules.html> (reporting on a report submitted by BP, Exxon Mobil, Chevron Texaco and others about the deficiency of the current SEC rules); Interview by SNL Energy with Kevin Keogh, Securities Partner, White & Case, LLP (Aug. 7, 2008), available at http://www.whitecase.com/talking_08072008/ (identifying the need for new updated regulations and the deficiencies of the current regulations)[hereinafter Keogh]; Kate Plourd, *Outdated Oil & Gas Reporting Rules Take Heat*, CFO, June 13, 2008, available at http://www.cfo.com/article.cfm/11561589/c_11560671?f=TodayInFinance_Inside (noting that companies and industry experts have pushed for change for years).

60. Concept Release, *supra* note 4, at 71,612 (addressing the numerous comment letters whose concern is that “in practice, [reasonable certainty] constitutes absolute certainty which they believe is too stringent a criterion.”).

61. 17 C.F.R. § 210.4-10(a)(1)(ii)(D) (not classifying the extraction of hydrocarbons from shale, tar sands, or coal as production activities); 17 C.F.R. § 210.4-10(a)(2)(iii) (“Estimates of proved reserves do not include . . . (D) crude oil, natural gas, and natural gas liquids, that may be recovered from oil shale, coal, gilsonite and other such sources.”).

62. 17 C.F.R. § 210.4-10(a)(2).

art technologies and alternative oil and gas sources were being employed to measure reserves and explore for oil and gas prior to drilling.⁶³

The overall goal behind the pre-2010 rules was to prevent any new types of oil reserves or methods of reserves estimation before it was certain that reservoirs existed and were commercially marketable. Those rules were generally deficient in this area because they were “made for an oil industry whose map was centered in what might be called ‘Texlahoma’—a conceptual composite of Texas, Louisiana, and Oklahoma that describes the heart of the conventional US [sic] oil patch.”⁶⁴ Since the pre-2010 rule propagation, technology has improved and the industry has changed significantly.

D. Summary

The pre-2010 regulations sought to protect investors, but in doing so they effectively censored information before it reached the public.⁶⁵ Furthermore they were based on unduly paternalistic standards to such an extent that they failed to maintain “fair, orderly, and efficient markets, and facilitate capital formation.”⁶⁶ The reporting requirements were structured to filter information before it reached investors in order to protect them from abusive, risky information. The SEC attempted to achieve its goal by prohibiting companies from reporting oil that was discovered or recorded using certain types of technology, and only allowed oil and gas to be reported if they were supported with proof that the resources could be transported and sold on the market.⁶⁷ Although this may have made sense in the late 1970s when the pre-2010 guidelines were adopted, the stringent, rule-based approach then taken by the SEC has been unable to grow and change to meet changes in the industry.⁶⁸

III. GRADUAL EVOLUTIONS AND DEPARTURE FROM THE PRE-2010 REGULATIONS

It has been twenty-five years since the former oil and gas reporting requirements were put in place. Over that period of time much has changed. The

63. Plourd, *supra* note 59 (discussing how companies use 3-D and 4-D seismic interpretation to decide where to drill).

64. Cambridge Energy Research Associates, *supra* note 37.

65. The Investor’s Advocate, *supra* note 17. One commentator in response to the Proposed Rule referred to the current rules as an “embargo on oil and gas resource information.” Letter from Davis Polk & Wardwell regarding Modernization of the Oil and Gas Reporting Requirements to Florence E. Harmon, Assistant Secretary, Securities and Exchange Commission (Sept. 4, 2008), *available at* <http://www.sec.gov/comments/s7-15-08/s71508-64.pdf>.

66. *Id.*

67. 17 C.F.R. § 210.4-10(a)(2); *see also* Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51 (clarifying that existing economic conditions could determine whether a reserve is economically feasible).

68. *See* Cambridge Energy Research Associates, *supra* note 37 (“The 1978 System was really made for an oil industry whose map was centered in what might be called ‘Texlahoma’—a conceptual composite of Texas, Louisiana, and Oklahoma that describes the heart of the conventional U.S. oil patch.” (quoting David Hobbs, CERA’s Director of E&P Strategy)).

need for new reporting requirements can hardly be attributed to one event. This section analyzes the factors that have led to new oil and gas reporting requirements. To begin, it examines technical advances in the procurement and location of resources. Additionally, it explores the process of valuation of resources, focusing on the significant changes that have led to exploitation of untraditional stocks. Finally, it analyzes the sanctions placed on companies for reporting deficiencies. These sanctions have created untenable results for the industry that necessitate new regulatory standards.

A. Technological Advances

Within the last decade, the SEC has retrofitted the former reporting requirements to current conditions in the market, and oil and gas company activities.⁶⁹ As technology was updated and oil drilling expanded, companies drilled for resources in ways that were unforeseen by the former regulations.⁷⁰ In response, the SEC issued statements and letters adjusting its reporting policies and, in some cases, allowing exceptions to the regulation standards. Nonetheless, even where it was clear that oil and gas existed in these unconventional areas, the SEC was cautious in allowing companies to report the new finds to their investors.⁷¹

For instance, on November 14, 2000, the SEC issued a statement clarifying oil and gas reserve definitions, which stated:

[T]he estimation and classification of petroleum reserves has been impacted by the development of new technologies such as 3-D seismic interpretation and reservoir simulation. Computer processor improvements have allowed the increased use of probabilistic methods in proved reserve assessments. These have led to issues of consistency and, therefore, some confusion in the reporting of proved oil and gas reserves by public issuers in their filings with the Commission.⁷²

In other words, the SEC recognized that technology had improved to such an extent that some previously disallowed oil could now be disclosed to investors.

69. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51 (clarifying oil and gas reserve definitions and requirements).

70. Concept Release, *supra* note 4, at 71,612 (“When the Commission adopted the proved reserves definitions in 1978, the only effective way to extract these compounds was through traditional mining techniques.” For an overview of some new techniques used to drill and otherwise extract oil, see New Techniques Oil Companies are Using in Drilling for Oil, oilprice.com, Nov. 25, 2009, available at <http://www.oilprice.com/article-new-techniques-oil-companies-are-using-in-drilling-for-oil.html>).

71. See David Enke, *SEC’s New Plan Could Revamp Oil and Gas Reporting Rules*, SEEKING ALPHA, Sept. 5, 2008, <http://seekingalpha.com/article/94021-sec-s-new-plan-could-revamp-oil-and-gas-reporting-rules> (“The new rules obviously don’t change the amount of oil and gas that is available worldwide, but they will help investors better calculate future cash flows and thereby place a proper valuation on a company.”); Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51 (“[C]ontinuity of production requires more than the technical indication of favorable structure...to meet the test for proved undeveloped reserves.”).

72. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51.

Much of the clarification in the November 14, 2000 SEC Release adjusted the former rules' definitions, which had been based on a stricter rules-based system, to meet new technologies currently utilized by the industry.⁷³ For example, it clarified the "reasonable certainty" standard by stating, "the concept of reasonable certainty implies that, as more technical data becomes available, a positive, or upward, revision is much more likely than a negative, or downward, revision."⁷⁴ This diverges with previous SEC standards, which did not allow reporting of oil or gas unless there had been direct contact with the reservoir.⁷⁵

The release further expanded "reasonable certainty" to adjust with any increase or decrease in product prices and cost of production.⁷⁶ For oil and gas to be reported as proved under the former regulations, the cost of extracting the oil had to be less than the cost of oil on the market.⁷⁷ "If oil and gas prices are so low that production is actually shut-in because of uneconomic conditions, the reserves attributed to the shut-in properties can no longer be classified as proved."⁷⁸ They could only be listed as proved in a subsequent year with the return of economic feasibility.⁷⁹ Thus, "a change in either the price of the product or the cost of production must have a reasonable certainty of occurrence or it cannot be considered proved."⁸⁰ These new principles were applied to allow technological advancement, provided- it fit the rules and standards outlined in the existent regulations. The release recognized that new technology, methods, and economic changes have removed some of the uncertainty in the estimation of reserves in ways unforeseen by the SEC when the original regulations were passed.

Some of the clarifications in the SEC's release were in direct response to these newly developed methods and technologies already in use. For example, if a new technology such as "hydrocarbon volumes" is to be allowed to report reserves using improved recovery techniques, it "cannot be classified as proved reserves unless the technique has been demonstrated to be technically and economically successful by a pilot project or installed program in that specific rock volume."⁸¹ This change is an example of how the guidelines allow a new technique to be used to prove oil reserves provided its success has been demonstrated. The pilot project

73. *Id.*

74. *Id.*

75. Concept Release, *supra* note 4, at 71,612 ("While a company may currently choose to use new techniques to help it decide where to drill additional wells, the staff has, in nearly all cases, continued to require that, in the absence of actual production, a company support economic producibility through a conclusive formation test.").

76. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51 ("An anticipated change in [economic] conditions must have reasonable certainty of occurrence; the corresponding investment and operating expense to make that change must be included in the economic feasibility at the appropriate time.")

77. 17 C.F.R. § 210.4-10(a)(2)(i) (2009); Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51 (economic feasibility means that the company can sell the resources for more than its cost to extract and transport them to market).

78. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51.

79. *Id.*

80. *Id.*

81. *Id.*

test is not in the regulations, but is a way for the pre-2010 rules to adjust to current practices without an official amendment to the rules.⁸²

However, by the same standard, the SEC disallowed oil reporting using certain technology because the elevated regulatory standard is higher than what that particular technology can meet given the situation.⁸³ SEC adjustments have made some previously disallowed reserves reportable, but they are still subject to an economic viability requirement. For example, coal bed methane gas is reportable as proved even though they were prohibited under the former SEC rules.⁸⁴ However, the SEC notes that such alternative deposits of oil and gas are subject to economic requirements that prohibit their reporting unless it is economically feasible or there is a ready market for such oil and gas.⁸⁵

The SEC made adjustments to their reporting requirements on other occasions as well. In 2002, the SEC issued a letter to companies involved with oil and gas in the deep waters of the Gulf of Mexico.⁸⁶ There had been numerous comment letters to the SEC regarding the requirement of a production flow test before reporting undeveloped reserves as proved.⁸⁷ Since such a test was uneconomical under the specific conditions in the Gulf of Mexico, the companies utilized other tools and techniques instead. The SEC concluded that such alternative techniques and tests were acceptable, but only in the case of the Gulf of Mexico; the existing standards must be followed in all other places.⁸⁸ The Gulf of Mexico situation illuminates another example where technology is providing better ways to find and produce oil and gas, compelling the SEC to create exceptions to its rules to compensate for their outdated requirements.

B. Desire for Non-Traditional Oil and Gas Resources

The value of an oil and natural resource company is reflected in the amount of oil and gas it has in its reserves. Reporting rules are therefore significant for company financing because the reported reserves are disclosed to potential investors: “Oil & gas reserves information is vitally important as a driver of market

82. *Id.*

83. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51 (rejecting the use of seismic data to meet the test for proved undeveloped reserves because seismic data may exist even though there is no continuity, which is required for proved undeveloped reserves. It must be conclusively proved in order to get consistency.).

84. 17 CFR § 210.4-10(a)(2)(iii); Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51.

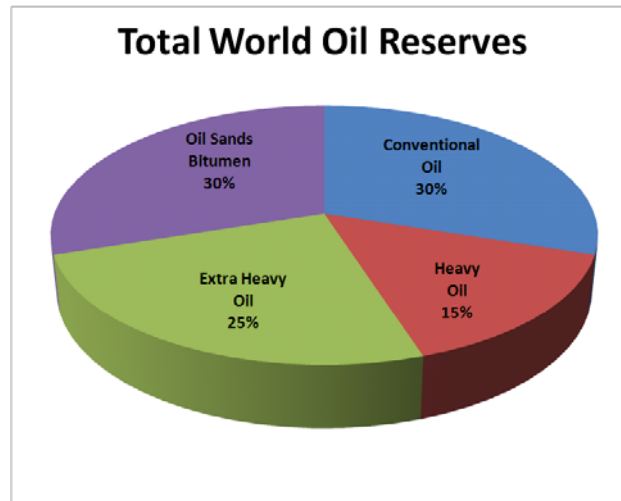
85. Excerpt from Current Issues and Rulemaking Projects Outline, *supra* note 51.

86. Letter from H. Roger Schwall, Assistant Director, Securities and Exchange Commission, to Companies with Oil and Gas Operations in the Gulf of Mexico (Apr. 15, 2004), available at <http://www.sec.gov/divisions/corpfin/guidance/oilgasltr04152004.htm>.

87. *Id.*

88. *Id.* (“Please understand that we take this position only with respect to the determination of proved undeveloped reserves in the deepwater Gulf of Mexico and no other location. In doing so, we recognize certain cost and environmental considerations that are particular to that geographic location and make the cost of traditional flow testing prohibitive.”).

values of publicly quoted companies in the sector. It is also critical to the calculation of reported income.⁸⁹ It is important for companies to expand on their proved reserves. However, since the 1970s, two trends have emerged: traditional sources of oil and gas are becoming increasingly difficult to reach and more expensive to extract,⁹⁰ and technology allows oil and gas production from more nontraditional sources.⁹¹ For example, nontraditional oils, like extra heavy oil and bitumen, now make up seventy percent of the world's total oil resources.⁹²



Economic and geological factors are driving oil and gas companies to replenish their oil reserves with alternative sources of oil.⁹³ The heart of the issue is that crude oil is increasingly difficult and costly to extract.⁹⁴ The effects of this

89. Newman, *supra* note 27, at 1.

90. See Alboudwarej, *supra* note 23, at 34 (“Dwindling oil supply, high energy prices and the need to replenish reserves are encouraging oil companies to invest in heavy-oil reservoirs); *New SEC Rule on Reserves May Benefit Oil, Natural-Gas Producers*, BLOOMBERG, Dec. 30, 2008, available at <http://peakoil.com/article45243.html> (last visited Mar. 1, 2009) [hereinafter *New SEC Rule*] (stating that oil producers find it more difficult and costly to replenish crude-oil reserves with a decline in easily accessible deposits). See generally M. King Hubbert, *Nuclear Energy and the Fossil Fuels* (Mar. 7-9, 1956) (presented before the American Petroleum Institute), available at <http://www.hubbertypeak.com/hubberty/1956/1956.pdf> (introducing the Peak Oil Theory and accurately predicting that petroleum production in the United States would peak in the 1970s).

91. Alboudwarej, *supra* note 23, at 35 (“Heavy oil promises to play a major role in the future of the oil industry, and many countries are moving now to increase their production, revise reserves estimates, test new technologies and invest in infrastructure to ensure that their heavy-oil resources are not left behind.”).

92. lboudwarej, *supra* note 23, at 35 (stating that the world oil reserves have been estimated to be composed of thirty percent oil sands/bitumen, thirty percent conventional oil, twenty-five percent extra heavy oil and fifteen percent heavy oil).

93. *Id.* at 1.

94. See *New SEC Rule*, *supra* note 90 (“[P]roducers...find it more difficult and costly to replenish crude-oil reserves with a decline in easily accessible deposits.”).

were first noted by M. King Hubbert in 1956 in what was later called the Hubbert Peak Theory.⁹⁵ This theory states that the production rate of a finite resource, like oil and gas, will follow a bell-shaped curve based on the limits of exploitability and market pressures (*see* Appendix B).⁹⁶ The central feature of the Hubbert Peak Theory is that oil production will first deplete sources that are easily accessible and inexpensive to produce. As more companies get involved, overall production increases. However, as those sources are depleted, other less desirable sources are accessed at a greater cost in time and capital, thereby decreasing the overall rate of production.⁹⁷ Although not all analysts agree on the specifics of the Peak Theory, the general trend that Hubbert predicted has been conceptually accurate.⁹⁸

As predicted by Hubbert, oil and gas companies are now relying on less traditional sources of oil to meet their quotas.⁹⁹ Favorable oil prices and better technology enable these companies to profitably extract nontraditional oil and gas reserves,¹⁰⁰ but under pre-2010 SEC regulations, they could not report these reserves as such.¹⁰¹ As a result, some oil and gas companies have circumvented the regulations by posting additional financial information and reserve quantities on websites and issuing press releases containing additional disclosure information.¹⁰² These unregulated disclosures essentially made the SEC and its guidelines irrelevant. There were no SEC protections concerning private disclosures as long as the company filed appropriate information with the SEC.

However, under new SEC rules, oil and gas companies will be allowed to include unconfirmed deposits when valuing their reserves, making them more attractive to investors.¹⁰³ Companies that had heavily invested in nontraditional sources struggled under the former regulations, but stand to gain the most from the

95. Energybulletin.net, Peak Oil Primer, <http://www.energybulletin.net/primer.php> (last visited Mar. 1, 2009); *see also* Figure 1 in Appendix B.

96. Hubbert, *supra* note 90, at 8, 27 (noting the finite nature of U.S. coal, oil, and natural gas).

97. *Id.* at 27.

98. Energybulletin.net, *supra* note 95 (“No oil producing region fits the bell shaped curve exactly because production is dependent on various geological, economic and political factors, but the Hubbert Curve remains a powerful predictive tool.”).

99. *See* Alboudwarej, *supra* note 23, at 35 (noting that the industry is focusing on the extraction of heavy oil due to the decline in production from most conventional oil reserves).

100. *Id.*

101. 17 C.F.R. § 210.4-10(a)(1)(ii)(D) (2009) (stating that, for the purposes of financial accounting and reporting, oil and gas production activities do not include the extraction of hydrocarbons from shale, tar sands, or coal); 17 C.F.R. § 210.4-10(a)(2)(iii) (“Estimates of proved reserves do not include the following . . . (D) crude oil, natural gas, and natural gas liquids, that may be recovered from oil shales, coal, gilsonite and other such sources.”).

102. Proposed Rule, *supra* note 2, at 39,534 (noting that the SEC wants to align reporting guidelines and current industry practice while giving investors more insight into the potential reserve base for a company).

103. *New SEC Rule*, *supra* note 90 (reporting that the new rule was designed to “allow producers to include probable and possible reserves that reflect new technologies in the reporting”).

new regulations.¹⁰⁴ However, not all companies decided to wait for new reporting requirements.¹⁰⁵ After all, the issue is not whether the oil exists, but whether and how it can be reported.¹⁰⁶ On one hand, companies using new technology to reach nontraditional sources of oil keep the industry growing. On the other hand, because the former rules did not allow these nontraditional sources to be reported, companies found alternative ways, both legal and illegal, to inform investors of the extent of oil and gas reserves.

C. *Royal Dutch and Shell Sanctions*

On August 24, 2004, the SEC imposed a cease-and-desist order on the Royal Dutch Petroleum Company (“Royal Dutch”) and the Shell Transport and Trading Co. (“Shell”) for overstating their proved oil reserves and delaying correction of the overstatement.¹⁰⁷ Royal Dutch, a Netherlands-based corporation, and Shell, an English corporation, both derived their incomes from their interests in the Royal Dutch/Shell Group of Companies (the “Royal Dutch/Shell Group”).¹⁰⁸ Through holding companies, they owned (directly or indirectly) the Royal Dutch/Shell Group and were able to appoint officers “responsible for considering and developing objectives and long-term plans of the [Royal Dutch/Shell Group].”¹⁰⁹ In 1997, Shell was concerned that its performance lagged behind American oil companies.¹¹⁰ Its methods for reporting proved developed oil and gas reserves, as defined by the SEC rules, were more conservative than the reporting methods of its American counterparts.¹¹¹ However, it was more liberal in registering proved undeveloped reserves.¹¹² As a consequence, its Reserves Replacement Ratio, a “key performance indicator,”¹¹³ suffered.

In response to its concerns and findings, Shell revised its guidelines in 1998 and began using a different method to estimate proved reserves in mature oil fields than it used in immature oil fields.¹¹⁴ The effect was a net increase in Shell’s

104. Enke, *supra* note 71 (“[Royal Dutch/Shell Group] is likely to benefit the most among the oil majors, given that they are investing capital to retrieve crude from bitumen-soaked soil in Canada, as well as extract natural gas in coal beds in Australia and China, both of which can now be included as reported proven reserves.”).

105. *See, e.g.*, Royal Dutch Sanctions, *supra* note 10, at 2-3 (wherein Shell overstated its oil reserves and was sanctioned); Newman, *supra* note 27, at 2 (noting that companies publish warnings that their disclosures do not represent the actual value of reserves).

106. Newman, *supra* note 27, at 2 (commenting that downgraded quantities of oil do not mean that, as is commonly perceived outside the industry, the oil is lost).

107. Royal Dutch Sanctions, *supra* note 10, at 3.

108. *Id.* at 2.

109. *Id.*

110. *Id.* at 5.

111. *Id.* at 5.

112. *Id.* at 6.

113. *Id.* at 3. The Reserves Replacement Ratio measures the ratio of new oil reserves to oil reserves produced. U.S. Department of Energy, EERE News: Major Oil Companies Report Low Reserve Replacement Ratios, http://apps1.eere.energy.gov/news/news_detail.cfm/news_id=8925 (last visited Feb. 17, 2010).

114. Royal Dutch Sanctions, *supra* note 10, at 6 (citing an internal Shell document stating

proved developed reserves and a net decrease in proved undeveloped reserves without any increase or decrease in its actual oil and gas reserves.¹¹⁵ In other words, Shell had re-categorized its undeveloped oil reserves as proved developed oil reserves by changing its method of calculation. In the first year, forty percent of the total proved reserves that Shell added came as a result of the 1998 revision, and between 1998 and 2001, Shell added 1.2 billion barrels of oil equivalent (“boe”) to its proved reserves.¹¹⁶

In 2001, the SEC attempted to end this creative use of estimates by issuing Shell interpretive guidance on disclosing reserves according to Rule 4-10.¹¹⁷ However, it took two more years for the company to correct its methods and re-categorize twenty-three percent (4.47 billion boe) of its “proved” reserves because it had not complied with the definition provided in SEC Rule 4-10.¹¹⁸ The SEC filed a cease-and-desist order,¹¹⁹ and as part of a settlement of the SEC’s enforcement action, Shell consented to a judgment against it in a concurrent civil suit.¹²⁰ This judgment forced Shell to pay a one dollar disgorgement and a one-hundred and twenty million dollar penalty.¹²¹ Shell also committed five million dollars to “develop and implement a comprehensive internal compliance program” and paid £17 million to settle a market abuse enforcement action in the United Kingdom.¹²²

Shell’s oil and gas overstatements were concentrated in three main geographic areas: the Gorgon project in Australia and interests in Nigeria and Oman.¹²³ The Nigerian and Omani overstatements were the result of Shell’s revised guidelines, discussed above, and of unrealistic forecasting of expected oil production.¹²⁴ In Gorgon, on the other hand, Shell overstated more than 550 million boe based on

that “[t]he only way to provide directly comparable figures to American competitors would be to adopt a deterministic approach to the derivation of proved reserves, whilst retaining the probabilistic approach for internal assessments for project optimization and evaluation.”). A field “was ‘mature’ under the revised guidelines if total production was greater than 30% of expectation reserves.” *Id.* at 6 n.10.

115. *Id.* at 6.

116. *Id.* at 6-7. Barrel of oil equivalent (boe) is a unit of measurement that “summarize[s] the amount of energy that is equivalent to the amount of energy found in a barrel of crude oil.” It is commonly used to report amounts of oil or natural gas reserves. Investopedia, Barrel of Oil Equivalent (BOE), <http://www.investopedia.com/terms/b/barrelofoilequivalent.asp> (last visited Feb. 28, 2009).

117. Royal Dutch Sanctions, *supra* note 10, at 4.

118. *Id.* at 2-3.

119. *Id.* at 1.

120. *Id.*, at 1 n.1; SEC, Royal Dutch Petroleum Co. and the “Shell” Transp. & Trading Co., P.L.C. Pay \$120 Million to Settle SEC Fraud Case Involving Massive Overstatement of Proved Hydrocarbon Reserves (Aug. 24, 2004), *available at* <http://www.sec.gov/news/press/2004-116.htm>.

121. SEC Press Release, Royal Dutch/Shell, *supra* note 30.

122. *Id.*

123. Royal Dutch Sanctions, *supra* note 10, at 9.

124. *Id.* at 10-12.

interest from a prospective purchaser, yet never marketed the gas.¹²⁵ Gorgon was nothing more than an undeveloped frontier gas field discovered in 1980.¹²⁶ Despite this, the Royal Dutch/Shell Group decided to mark the Gorgon gas reserves as “proved” before even making an investment in developing the gas or securing a purchaser.¹²⁷

Shell’s problem was not a lack of assets. In 2005, the Royal Dutch/Shell Group merged its holding companies, creating Royal Dutch Shell PLC, which is now one of the largest companies in the world.¹²⁸ Rather, the problem was that the SEC regulations did not permit Shell to report those assets to its investors. That is why “Shell’s shifting of reserve . . . simply cannot be compared with the phantom profits and bogus assets booked by Enron. The oil and gas actually still exists, and Shell still owns them as real, usable assets[,]”¹²⁹ though not reportable.

In fact, Royal Dutch Shell PLC should be the one of the greatest beneficiaries of the new SEC regulations because “they are investing capital to retrieve crude from bitumen-soaked soil in Canada, as well as extract natural gas in coal beds in Australia and China, both of which can now be included as reported proven reserves.”¹³⁰ The new regulations will allow companies to report undeveloped oil and natural gas reserves as proved, possible, or probable.¹³¹

The Shell case had a tremendous effect on the SEC’s guidelines because it brought the topic of oil and gas regulation under public scrutiny.¹³² Although the oil and gas industry received the most criticism, the case also exposed the inadequacies of the then-existing SEC reporting.¹³³ The oil existed, but nevertheless could not be reported in the outdated rules. The case “triggered a torrent of regulatory, analytical[,] and journalistic scrutiny of oil [and] gas reserves

125. *Id.* at 9-10.

126. *Id.*

127. *Id.*

128. Royal Dutch Shell had over \$260 billion in total assets in 2007. ROYAL DUTCH SHELL, 2007 SUMMARY CONSOLIDATED BALANCE SHEET (2008), *available at* <http://www.annualreview.shell.com/2007/summaryconsolidatedfinancialstatements/balancesheet.php>.

129. *Another Enron?—Royal Dutch/Shell (Shell’s Crisis Continues)*, THE ECONOMIST, Mar. 2004, at 59-60; *see also* Newman, *supra* note 27, at 2 (“But the stance taken by [the SEC], limiting reserves disclosures to only the ‘proved’ category, [has] resulted in a widespread misperception that these ‘downgraded’ quantities have been effectively ‘lost’ to the reporting companies.”).

130. Enke, *supra* note 71.

131. Press Release, SEC, SEC Modernizes Oil and Gas Co. Reporting Requirements to Provide Investors with More Meaningful and Comprehensive Disclosure (Dec. 29, 2008), *available at* <http://www.sec.gov/news/press/2008/2008-304.htm> [hereinafter SEC Press Release, Meaningful Disclosure].

132. *See* Ferruh Demirmen, *Reserves Estimation: The Challenge for the Industry*, J. PETROLEUM TECH. 80, 80 (2007), *available at* <http://www.spe.org/spe-site/spe/spe/jpt/2007/05/DAS103434.pdf> (indicating that, as a result of these downward revisions of reserves, “[c]onfidence in reserves disclosures became a public issue, and there were calls from investors and lending institutions for more-reliable reserves estimates.”).

133. *See* DELOITTE, *supra* note 42. (reporting that the SEC disclosure requirements have faced criticism for failing to keep pace with industry changes).

reported by many other companies across the industry.”¹³⁴ A few years later, the SEC responded with a concept release and committed to updating its oil and gas reporting requirements.

IV. SEC REPORTING REQUIREMENTS: THE NEW REGULATIONS

A. Overview

The new regulations that came into effect on January 1, 2010 attempt to remedy the outdated SEC oil and gas reporting standards. As discussed, these changes are necessary to “protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.”¹³⁵ In its concept release, the SEC expressed concern that the prior rules, adopted over twenty-five years ago, did not reflect current practices.¹³⁶ In adopting the new rules, the SEC hoped to give investors “a more meaningful and comprehensive understanding of oil and gas reserves,”¹³⁷ by emphasizing clarity, comparability, and transparency.¹³⁸ At the same time, oil and gas companies were calling for updated guidelines, and they were ultimately the catalyst for the update.¹³⁹ The new SEC guidelines seek to regain the confidence of current and potential oil and gas industry investors in the wake of the Shell sanctions.

The SEC adopted three considerable changes to its reporting requirements: First, it broadened the types of reportable oil to include some nontraditional oil resources.¹⁴⁰ Second, it adopted a probabilistic approach to oil and gas reporting by allowing more than one category of resource reserves.¹⁴¹ Finally, it adopted many of the industry definitions and guidelines as part of the overall reporting requirements.¹⁴²

134. Newman, *supra* note 27, at 1.

135. SEC, The Investor’s Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation, <http://www.sec.gov/about/whatwedo.shtml> (last visited Feb. 28, 2009).

136. Final Rule, *supra* note 1, at 2158.

137. *Id.*

138. *Id.* at 2160.

139. The greatest push for new rules came from the Society of Petroleum Engineers (SPE) and other oil and gas industry organizations such as the World Petroleum Council, and the American Association of Petroleum Geologists. These organizations published complaints about the deficiency of the current rules, and set their own standards of practice and disclosure requirements that heavily influenced the new SEC guidelines. *See, e.g.*, SOCIETY OF PETROLEUM ENGINEERS ET AL., PETROLEUM RESOURCE MANAGEMENT SYSTEM (2007), available at http://www.spe.org/spe-site/spe/spe/industry/reserves/Petroleum_Resources_Management_System_2007.pdf [hereinafter PRMS].

140. Final Rule, *supra* note 1, at 2160.

141. *Id.*

142. *Id.*

B. Broader Disclosure

The new SEC guidelines allow the reporting of oil and gas that is proved, probable, and possible, instead of allowing only reports of proved oil and gas.¹⁴³ Dividing oil and gas resources in this manner is consistent with other nations' oil and gas reporting requirements, as demonstrated in Table 2 (*see* Appendix A).¹⁴⁴ Table 2 shows that all other major reporting systems have categorized oil reserves into multiple probabilistic classes, thereby disclosing a more detailed report of the amount of oil and gas that a company actually has in its reserves.¹⁴⁵

Using the proved, possible, and probable categories clarifies oil and gas companies' financial assets. A more consistent set of definitions will allow for better comparability between companies trading in other markets. The new guidelines adopted terms and definitions outlined in the Petroleum Resource Management System (PRMS).¹⁴⁶ The PRMS is the collaborative effort of several different petroleum organizations, dedicated to making a single set of reserve estimation guidelines.¹⁴⁷ The adopted definitions set a standard for acceptable technologies and standards for accepting new types of technologies.¹⁴⁸ The new rules also allow companies to disclose a more accurate representation of their assets.¹⁴⁹

The new rules provide specifically outlined categories for comprehensive reserves classification.¹⁵⁰ This was enacted in direct response to industry complaints that companies could no longer accurately reflect their financials to

143. *Id.*

144. SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 10.

145. The table accurately portrays the SEC as restrictive, allowing only one type of reserve. The UK, the second most restrictive, allows four probabilistic categories. China makes classifications on probability of volume as well as probabilities of economic recovery. *Id.*

146. Final Rule, *supra* note 1, at 2160.

147. *Id.* at 2160 n.15.

148. *Id.* at 2192 (“Reliable technology is a grouping of one or more technologies ... 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.”).

149. *See, e.g.*, Cambridge Energy Research Associates, *supra* note 37 (“[The current SEC system] is increasingly at odds with the realities of the oil and gas industry in the 21st century and, as a result, it does not properly inform investors about values and prospects of companies.”); Hope, *supra* note 59 (reporting that big oil companies criticized the pre-2010 rules as “fall[ing] short of accurately describing industry and individual companies’ values.”).

150. Final Rule, *supra* note 1, at 2191-92. Proved resources (P1) are quantities which can be estimated with reasonable certainty to be commercially recoverable, with at least 90% probability that the quantities actually recovered will equal or exceed the estimate. Probable reserves (P2) are unproved reserves which analysis suggests are more likely than not to be recoverable (i.e., there is at least a 50% probability that the quantities actually recovered will equal or exceed the sum of estimated proved plus probable resources). Possible reserves (P3) are those unproved reserves which analysis suggests are likely to be recoverable than probable reserves, with at least 10% probability that the quantities actually recovered will equal or exceed the sum of estimated proved, plus probable, plus possible reserves. Society of Petroleum Engineers (SPE), Glossary of Terms Used in Petroleum Reserves/Resource definitions, http://www.spe.org/spe-site/spe/spe/industry/reserves/GlossaryPetroleumReserves-ResourcesDefinitions_2005.pdf (last visited Mar. 25, 2010).

investors without breaking SEC regulations.¹⁵¹ Conversely, the former SEC rules disallowed broad reserve reporting and incentivized fraud and diversion from the guidelines.¹⁵² With broader disclosure rules, not only are companies more likely to comply, but also investors can more accurately evaluate the range of an oil company's reserves.

The broad disclosure requirements work very well for the oil and gas industry.¹⁵³ The industry is satisfied because the new rules permit them to report types of oil reserves that were restricted from disclosure under the pre-2010 rules. Also, under the new rules companies are free to use otherwise disallowed technology to prove reserves, which has become necessary due to increased difficulties in oil extraction and dwindling supply.¹⁵⁴ The overall effect is that the new disclosure requirements “may make oil and natural-gas producers more attractive to investors by letting them declare reserves that have yet to be confirmed. . . .”¹⁵⁵

C. Balancing Investor Protection and Industry Preference

The SEC must maintain a delicate balance between industry standards, current industry practices, and investor protections.¹⁵⁶ For instance, the new SEC guidelines require disclosure of a twelve-month average pricing based on historical data rather than an estimate of future pricing.¹⁵⁷ Naturally, one significant difference between the historical and future data is that historical data carries fewer assumptions than future pricing, since the latter is based on estimates and conjecture regarding future markets. The other significant difference is that future pricing is the means by which companies traditionally reported their market value.¹⁵⁸

Although pricing at an actual market value would benefit both the investor and the industry, the SEC decided that a pricing system that enables the investor to compare oil and gas companies with each other is the best alternative.¹⁵⁹ As the SEC emphasized when it issued the updated rules, “[t]he objective of reserves

151. See Cambridge Energy Research Associates, *supra* note 37 (“[The current SEC system] is increasingly at odds with the realities of the oil and gas industry in the 21st century and, as a result, it does not properly inform investors about values and prospects of companies.”); Hope, *supra* note 59 (reporting that big oil companies criticized the pre-2010 rules as “fall[ing] short of accurately describing industry and individual companies’ values.”).

152. Newman, *supra* note 27, at 1.

153. *New SEC Rule*, *supra* note 90.

154. Newman, *supra* note 27; see also Alboudwarej, *supra* note 23, at 1 (noting that dwindling oil supply and high prices have led investors to alternative oil resources).

155. *New SEC Rule*, *supra* note 90.

156. See Final Rule, *supra* note 1, at 2160 (“The revisions of, and additions to, the Rule 4-10 definitions attempt to address these issues without sacrificing clarity and comparability, which provide protection and transparency to investors.”).

157. *Id.* at 2161.

158. *Id.* at 2162.

159. *Id.* at 2161.

estimation is to provide the public with comparable information about volumes, not fair value, of a company's reserves available to enable investors to compare the business prospects of different companies."¹⁶⁰ This demonstrates that the SEC strives for compromise between investor protection and reasonable industry demands.

D. Harmonization with International Guidelines¹⁶¹

The oil and gas industry has welcomed harmonization between the SEC rules and the general international industry standards because the new rules virtually codify already existing practices.¹⁶² For instance, industry professionals already use proved and probable reserve estimates together when making financial decisions and infrastructure planning.¹⁶³ In fact, the new SEC requirements closely reflect Canadian rules that have been in operation for a number of years.¹⁶⁴ For multinational oil and gas companies, aligning SEC requirements with existing international practices will more accurately reflect the financial status of their oil reserves.¹⁶⁵ However, smaller companies and companies that only trade in U.S. markets may have a relatively difficult time complying with the more detailed and burdensome new reporting requirements.¹⁶⁶ Still, most of the small companies already follow industry guidelines and can now largely use the same information for SEC reporting purposes.

E. Improving Investment Decisions

The new regulations improve the information that investors use in making financial decisions. Expanding the types of reserves that are allowed to be reported gives the investors a clearer picture of the status of the reserves and their production capability.¹⁶⁷ Each oil reserve level (proved, probable, and possible) is accompanied by probabilities, which help the investor measure the risks and expected returns. Moreover, the guidelines provide some protections for investors that were absent in the pre-2010 rules. For instance, due to the restrictiveness of the former SEC rules, many companies issued private disclosures to their investors, which were not subject to SEC regulation and raised issues of selective

160. *Id.*

161. *See infra* Part IV. B (discussing how the updated SEC regulations align with both industry standards and the requirements of other countries).

162. *See, e.g.,* Keogh, *supra* note 59.(noting that because the new rules are similar to guidelines in other countries, it will make it easier for multinational companies to report in several jurisdictions).

163. Newman, *supra* note 27.

164. Keogh, *supra* note 59.

165. *See, e.g.,* Keogh, *supra* note 59; Cambridge Energy Research Associates, *supra* note 37 (criticizing the current rules for not reflecting economic reality).

166. Keogh, *supra* note 59.

167. *Id.* ("A number of institutional investors, in particular, like to see [the inclusion of estimated probable and possible reserves], especially with probable reserves and possible reserves even though they have a much lower possibility of recovery, and because it gives investors a broader picture going forward of what the reserve and production picture might be.").

disclosure in an unregulated area.¹⁶⁸ To a great extent, such selective disclosure is unnecessary under the new rules. Further, companies are now required to disclose the qualifications of those responsible for reserves estimates.¹⁶⁹

F. Shortcomings

Despite the great strides taken by the amended SEC rules, not all investors' concerns are fully addressed. The price and value estimates that are required by the new SEC disclosures will not necessarily be indicative of the fair market value of the company's reserves.¹⁷⁰ The SEC is thereby making a counterintuitive assumption that a relative measure of comparability is sufficient for investors to make their financial decisions.¹⁷¹ According to the SEC, this unusual requirement is justified by the importance of comparability.¹⁷² Accuracy is of the utmost importance to an investor making financial decisions. The new SEC guidelines adopted a principles-based definition of "[r]eliable technology"¹⁷³ and "[p]reparation of reserves estimates or reserves audits."¹⁷⁴ Principle based guidelines are subject to interpretation, lack bright line requirements, and give broad discretion to companies to "make the numbers."¹⁷⁵ Thus, investors have to rely on information that is softer than the rule-based system usually employed by the SEC.

Furthermore, the disclosures will not reflect fair market value.¹⁷⁶ When the SEC asked for comments on the proposed updated oil and gas reporting requirements, many companies voiced concerns about the disclosure pricing and

168. *Id.* (noting that private placement of financial information led to concerns of selective disclosure).

169. Final Rule, *supra* note 1, at 2174-75 (rejecting concept of third party auditor but requiring the qualifications and methods of the person calculating the estimates be disclosed); *see also* Keogh, *supra* note 59.

170. Final Rule, *supra* note 1, at 2161-62.

171. *Id.*

172. *Id.* at 2162 ("By eliminating assumptions underlying the pricing variable . . . investors are able to compare reserves estimates where the differences are driven primarily by reserves-specific information, such as the location of the reserves and the grade of the underlying resource.").

173. *Id.* at 2192 (defining "reliable technology" as "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.").

174. *Id.* at 2194 (defining "[p]reparation of reserves estimates or reserves audit" as the disclosure and description of "the internal controls the registrant uses in its reserves estimation effort," as well as the disclosure of "the qualifications of the technical person primarily responsible for overseeing the preparation of the reserves estimates[]").

175. Levitt, *supra* note 14 ("Our accounting principles weren't meant to be a straitjacket . . . That's why the highest standards of objectivity, integrity and judgment can't be the exception. They must be the rule. Flexibility in accounting allows it to keep pace with business innovations. Abuses such as earnings management occur when people exploit this pliancy. Trickery is employed to obscure actual financial volatility.").

176. Final Rule, *supra* note 1, at 2161-62.

accounting.¹⁷⁷ As it stands, the accounting procedures in the new rules are based on a twelve-month average pricing measure at the beginning of each month.¹⁷⁸ Although none of the comments proposed a clear solution, the majority thought the pricing model would not reflect actual pricing and market conditions.¹⁷⁹ Others also voiced concern that such inaccuracies would affect depreciation, amortization, depletion and net income.¹⁸⁰ In the end, the SEC decided not to adopt a system that reflected fair market values, but instead opted to emphasize comparability.¹⁸¹

There was also unanimous dissent from the industry to the Concept Release and Proposed Rules regarding the auditing of the reserves estimation process, which the new regulations now require.¹⁸² The industry opposed these auditing rules, even though they explicitly refrain from prescribing the qualifications required for reserves estimators,¹⁸³ and do not address whether a reserves estimate can be invalidated if the reserves estimator is under-qualified. The rules are seemingly a half-hearted attempt by the SEC to appease investors and companies without providing any actual protection against fraudulent disclosures.

The industry likewise dissented from the distinctions that the SEC made between certain types of sources for oil and gas that continue to be excluded.¹⁸⁴ The comments were generally aimed at the accuracy of disclosures rather than at the problem of nondisclosure of information. One commentator stated that “distinguishing bitumen or other intermediate product from traditional oil and gas creates a false and misleading sense of comparability” because different companies face dissimilar risks and rewards depending on how the bitumen is processed.¹⁸⁵ On this point, the SEC took a middle-of-the-road approach allowing separate disclosures for traditional and nontraditional oil and gas, though not requiring any further considerations beyond that.¹⁸⁶

177. *Id.*

178. *Id.* at 2160. The current rules are based on a single-day, year-end pricing to determine the quantity of the proved reserves. *Id.* at 2161.

179. *Id.* at 2161.

180. *Id.*

181. *Id.* (“The objective of reserves estimation is to provide the public with comparable information about volumes, not fair value, of a company’s reserves available to enable investors to compare the business prospects of different companies.”).

182. Final Rule, *supra* note 1, at 2174.

183. *Id.* at 2175.

184. *Id.* at 2163, 2174.

185. *Id.* at 2163.

186. *Id.* Whether separating synthetic oil disclosures from traditional oil disclosures will mislead investors is yet to be seen. However, this issue raises the valid point, if the distinction between nontraditional and traditional oil is artificial then, unless producers disclose whether they sell the raw resource or whether they upgrade and sell synthetic oil the investor is unlikely to be able to identify the risks associated with the product.

G. *The Alignment of the Change with Industry Standards and the Requirements of Other Countries*

One reason for updating the SEC regulations was to align definitions and standards with industry practice and the successful rules of other nations.¹⁸⁷ The SEC had the luxury of consulting other nations' regulations before drafting the 2008 proposed reporting requirements, namely Canada's National Instruments, passed in 2003,¹⁸⁸ and the Petroleum Resource Management System ("PRMS"), published in 2007.¹⁸⁹ The following section examines the regulations in place and those proposed both domestically and abroad.

The PRMS significantly influenced the new SEC regulations. The PRMS is an international collaborative effort by the Society of Petroleum Engineers, the American Association of Petroleum Geologists, the World Petroleum Council, and the Society of Petroleum Evaluation Engineers¹⁹⁰ to standardize the definition and estimation of petroleum resources.¹⁹¹ The first effort to standardize definitions was commenced in 1930,¹⁹² but more recently, the manual was consolidated in 1997, and updated in 2000, 2005, and 2007.¹⁹³

The definitions and guidelines in the PRMS are intended to "provide a common reference for the international petroleum industry, including national reporting and regulatory disclosure agencies,"¹⁹⁴ but "must not be construed as modifying the interpretation or application of any existing regulatory reporting requirements."¹⁹⁵ The oil and gas industry consider these definitions its fundamental guidelines and standards.¹⁹⁶

Another influence on the new SEC rules was Canada's oil and gas reporting regulations.¹⁹⁷ Although serving as a model more for the Proposed Rules than the Final Rules,¹⁹⁸ the Canadian reporting requirements provide a useful point of

187. Keogh, *supra* note 59.

188. DELOITTE, *supra* note 42.

189. PRMS, *supra* note 139, at 1.

190. *Id.*

191. *Id.*

192. *Id.*

193. *Id.*

194. *Id.*

195. PRMS, *supra* note 139, at 1.

196. Final Rule, *supra* note 1, at 2158 (noting that commentators to the concept release and proposed rules overwhelmingly suggested that SEC regulations mirror the PRMS).

197. Guy P. Lander, Client Advisory from Ledyard & Milburn, LLP, *Modernization of SEC Oil and Gas Reporting Requirements*, (2009), available at <http://www.clm.com/publication.cfm/ID/188> (last visited Mar. 1, 2009);

DELOITTE, *supra* note 42.

198. See NEWSLETTER, AKIN GUMP STRAUSS HAUER & FELD, LLP, (Jan. 12, 2009), available at http://www.akingump.com/files/Publication/9bfa382d-d5e1-4785-ad07-26cedde56ba6/Presentation/PublicationAttachment/659bef6c-8f83-4988-9be6-1ee021e40c27/090112_SEC%20Adopts%20Final%20Rules%20Modernizing%20Oil%20and%20Gas_IMPOSED.pdf (see chart showing some definitions from the CSA in the proposed rules,

reference, since they are the antithesis of the pre-2010 SEC reporting requirements.¹⁹⁹ Further, the Canadian Securities Administrators (“CSA”) and the SEC shared a similar desire to update their outdated rules. Moreover, the Canada is one of the few major industrial nations whose rules require specific securities disclosures from oil and gas companies.²⁰⁰

Canada has developed a reporting system based on consistent and uniform terminology and disclosure across industry standards, guidelines, and CSA reporting requirements.²⁰¹ Before implementing these regulations in 2003, the Alberta Securities Commission²⁰² created the Oil & Gas Taskforce.²⁰³ This taskforce, commenced in 1998, had two goals: to develop modernized disclosure standards that reflected current activities of oil and gas issuers, and to ensure that the standards obtained the support of both the oil and gas industry and the CSA.²⁰⁴ The CSA’s concern was that “[p]oor, inconsistent, disclosure practices on the part of some issuers can lead to a broader impairment of public confidence in [the] capital markets, to the detriment of all oil and gas issuers and investors.”²⁰⁵

but adopting the PRMS in the final rules)[hereinafter AKIN GUMP].

199. DELOITTE, *supra* note 42.

200. *See* SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 6 (identifying the United States, Canada, and the United Kingdom as three of the lead agencies that have defined rules for disclosure to security investors for publicly traded oil and gas companies). Some countries have government and industry reporting and attempt to “capture the full resource base in order to project future production potential for the country and are not primarily concerned to show recoverable volumes and values accruing to individual companies.” *Id.* at 7. The United Kingdom has the second most stringent disclosure requirements. *Id.* at 12. The United Kingdom does allow disclosure of probable reserves and follows the SPE (now the PRMS) definitions closely. *Id.* For these reasons, discussing the United Kingdom’s, in addition to the Canadian rules would be redundant for the purposes of this article.

201. *See* SCHLUMBERGER INFORMATION SYSTEMS, OIL AND GAS RESERVES DISCLOSURE WHITE PAPER: A PRIMER ON CANADA’S NEW NATIONAL INSTRUMENT 51-101 2 (Oct. 2003), *available at* http://www.slb.com/media/services/software/whitepaper/whitepaper_oilgasreserve.pdf (“The principal objectives of the new regulations are to improve and standardize the way the industry estimates and reports oil and gas reserves data.”).

202. The Alberta Securities Commission is one of thirteen Canadian provinces that report to the CSA. The ASC was the flagship commission that did the footwork for the National Instrument. *See* About the ASC, <http://www.albertasecurities.com/about/Pages/default.aspx> (last visited Mar. 2, 2009).

203. ALBERTA SECURITIES COMMISSION, OIL AND GAS SECURITIES TASKFORCE 3 (Jan. 24, 2001), *available at* http://www.albertasecurities.com/securitieslaw/Regulatory%20Instruments/5/2232/Taskforce_Report_-_Jan_24-01.pdf.

204. *Id.*

205. CANADIAN SECURITY ADMINISTRATORS, NOTICE: PROPOSED NATIONAL INSTRUMENT 51-101 STANDARDS OF DISCLOSURE FOR OIL AND GAS ACTIVITIES, PROPOSED REPEAL OF NATIONAL POLICY STATEMENT NO. 2-B, AND PROPOSED CONSEQUENTIAL AMENDMENTS 3 (Jan. 23, 2002), *available at* http://www.albertasecurities.com/securitieslaw/Regulatory%20Instruments/5/2232/_868886_v12_CSA_Notice_-_51-101.pdf.

Additionally, lax and inconsistent disclosures that were too often inaccurate and misleading to investors contributed to the change in regulations.²⁰⁶

The new CSA requirements allowed companies to report a range of oil and gas reserves including “proved,” “possible,” and “probable.”²⁰⁷ Further, oil and gas companies were not prevented from basing their reports on single day pricing which was susceptible to short term price volatility, and could cause anomalous effects on reserves valuation.²⁰⁸ This allowed companies to reflect a more accurately value their company to investors.²⁰⁹

The CSA has run into some difficulties in applying its oil and gas reporting requirements, including questions regarding terminology.²¹⁰ However, most analysts have attributed the lack of clarity to growing pains and inexperience with the new system.²¹¹ A bigger concern has been the clash between CSA and SEC requirements. The CSA regulations allow companies to apply for an exception to the CSA requirements and instead adopt the former SEC reporting regulations.²¹² Companies who use both reports must disclose to their investors the differences between the reports and effectively allowing an American investor to ignore the information provided in one report or the other. Overall, however, the CSA requirements are almost identical to the PRMS,²¹³ and there have not been major issues in the short time since their adoption.

V. EVALUATION AND CRITIQUE

A. Concerns

Despite the new SEC disclosure guidelines on January 1, 2010, some issues with the regulations still need to be resolved. Mainly, the SEC definitions must go beyond the PRMS accepted guidelines and standards. An inherent characteristic of any principles-based system is the continuous need to update and redefine terms;

206. SCHLUMBERGER, *supra* note 201, at 2.

207. Canadian Security Administrators, 2007 [NI 51-101: Standards of Disclosure for Oil and Gas Activities] [hereinafter NI 51-101].

208. SCHLUMBERGER, *supra* note 201, at 1-2.

209. *Id.* at 2.

210. Paul Stastny, *Reassessing Reserves: The Push for Universal Standards for Oil and Gas Reserves Disclosure Gains Momentum*, OILWEEK MAGAZINE, June 2006, <http://www.oilweek.com/articles.asp?ID=307> (noting that the CSA receives comments that the rules are unclear, cumbersome, and useless).

211. See, e.g., J. Glenn Robinson & David Elliott, *National Instrument 51-101 (NI 51-101) Reserves Reconciliation—Part 2, A Review of Technical Revisions in Annual Information Form Filing for End 2003*, 44 J. OF CAN. PETROLEUM TECH. 6, 11 (Feb. 2005), available at http://www.albertasecurities.com/about/Careers/6248/51-101_Reserves_Reconciliation_-_Part_2_-_GRobinson.pdf (“This is the first year of reporting under NI 51-101 and, although the change from the previous National Policy 2B did not introduce any fundamental changes in reserves definitions, a first year is, inevitably, one of adjustment.”).

212. NI 51-101, *supra* note 207.

213. See SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 13.

oil and gas reporting requirements are no exception. The following is a list of principles from the SEC disclosure guidelines:

- *Reliable technology*: Rule 4-10(a)(25) in Regulation S-X regarding reserves disclosure requirements and the accepted technology that can be used to measure results.²¹⁴
- *Reasonable certainty*: Rule 4-10(a)(31) of Regulation S-X and Item 1203 of Regulation S-K regarding the existence of proved reserves.²¹⁵
- *Reasonable certainty*: Rule 4-10(a)(31) regarding tests of areas beyond one drilling unit²¹⁶ from a productive well.
- *High degree of confidence*: defines “reasonable certainty.”
- The reasonable qualifications of the person or persons conducting the reserves estimates.²¹⁷

Depending on their application and definition, these terms could be problematic due to their ambiguity. Additionally, most of the definitions and standards are borrowed from either the Canadian National Instrument or the PRMS. The following is a short list of examples:

- The new SEC disclosures adopted most of the new and revised definitions based on, or consistent with, PRMS and the Canadian Oil and Gas Evaluation Handbook.²¹⁸
- Reserves are developed if the cost of any required equipment is relatively minor compared to the cost of a new well.²¹⁹
- Adopted new definition of “reasonable certainty” consistent with PRMS.²²⁰

With this mind, the SEC needs to resolve two potential problems. The first is whether the SEC can expect its guidelines to stay consistent with industry practice and other nations’ reporting standards considering the existence of multiple enforcement and interpretation agencies. In other words, can a uniform application of the new guidelines survive without constantly consulting other nations and international organizations? The second is whether the SEC can defer to the PRMS in interpretation and definition of its own guidelines and rules or if such deference would throw off the delicate balance the SEC must maintain.

The underlying problem is that by relying on other organizations, the SEC may set an international standard at the expense of investor protection at home. The SEC briefly commented on this issue in the Final Rules release, stating:

Rather than defining an extensive glossary of terms in our rules and attempting to constantly update those definitions, we advise companies to look to definitions that are commonly accepted within the oil and gas

214. 17 C.F.R. § 210.4-10, Nt. (a)(25) (2009).

215. 17 C.F.R. § 210.4-10, Nt. (a)(24).

216. A “drilling unit” is an area specified by government regulation or by voluntary agreement for the drilling of a well. Proposed Rule, *supra* note 2, at 39,535.

217. 17 C.F.R. § 210.4-10, Nt. (a)(24).

218. *See* AKIN GUMP, *supra* note 198.

219. *Id.* (consistent with the PRMS).

220. *Id.*

industry to the extent such definitions are not in, or inconsistent with, our rules.²²¹

That statement provides little comfort when most of the terms and definitions already in the regulations are adopted from the PRMS.

In isolation, the above terms are not problematic; however, when taken in context, the innate difficulty in maintaining uniform definitions and standards without a central enforcement body becomes apparent. In this case, the SEC has jurisdiction of the United States, while the Canadian National Instruments and the PRMS guidelines have their own governing and regulating bodies that will define and change their definitions. Eventually, as each enforcing body applies its own terms and standards, the application of the rules will be different for each enforcing body.

Complying with Canadian National Instrument definitions and standards will most likely not be an issue because the CSA has the same interest in regulation as the SEC.²²² However, the PRMS was intended to serve as guidelines solely for the oil and gas industry.²²³ Although the different petroleum organizations involved in drafting the PRMS took into consideration various national requirements, investors are not specifically intended to benefit from its guidelines.

As it stands, the PRMS is governed by various petroleum organizations.²²⁴ Members of these organizations include geologists, students, business people, and professors.²²⁵ Directors on the board are industry professionals, professors, and energy consultants.²²⁶ The SEC is not a member, nor do investors play a significant role in the decision making process in any of the organizations that contribute to PRMS enforcement and amendments. Consequently, there are conflicting motivations behind enforcing and evaluating industry behavior.

For instance, if a problem is encountered while estimating and reporting oil and gas reserves, industry members inquire whether those reports are consistent

221. Final Rule, *supra* note 1, at 2168-69.

222. Compare Canadian Securities Administrators, <http://www.securities-administrators.ca/> (last visited Mar. 2, 2009) (“The CSA protects Canadian investors from unfair, improper, or fraudulent practices and fosters fair and efficient capital markets.”) and About the ASC, *supra* note 201 (“[The Alberta Securities Commission] is entrusted to foster a fair and efficient capital market in Alberta and to protect investors....[T]he ASC works to improve, coordinate and harmonize the regulation of Canada’s capital markets.”), with The Investor’s Advocate, *supra* note 17 (“The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.”).

223. PRMS, *supra* note 139, at 1 (“These definitions and guidelines are designed to provide a common reference for the international petroleum industry . . . They are intended to improve clarity in global communications regarding petroleum resources.”).

224. The PRMS is sponsored by the Society of Petroleum Engineers, the American Association of Petroleum Geologists, the World, Petroleum Council, and the Society of Petroleum Evaluation Engineers. PRMS, *supra* note 139, at 1.

225. Join SPE, Society of Petroleum Engineers, http://www.spe.org/spe-app/spe/membership/about_membership/index.htm (last visited Mar. 2, 2009).

226. 2009 Board of Directors, Society of Petroleum Engineers, http://www.spe.org/spe-app/spe/about/leadership/SPE_Board.htm (last visited Mar. 2, 2009).

with acceptable industry practices, while the SEC's concern is whether those reports are consistent with practices that promote capital markets and protect the public. Thus, the SEC's reliance on guidance and interpretation from the PRMS effectively diminishes its ability to raise issues of transparency and reporting accuracy, and may appear as tailoring to industry interests instead.

The predicament is, if the SEC defers to another organization for interpretation and guidelines, then part of the SEC's enforcement power is lost, having effectively ceded its influence to interpret and define the regulations. Conversely, if the SEC decides to interpret guidelines without the assistance of industry standards, it will keep its enforcement power at the expense of an international standard. Thus, there are two directions that the SEC can apply their regulations: the SEC can either defer to industry's self-interested guidelines and hope that investors are protected anyway, or the SEC can define and enforce their guidelines as they see fit and abandon the international standard for oil and gas reporting. Neither option is in line with the SEC's stated purpose of updating their oil and gas reporting requirements.²²⁷

B. Recommendations

The SEC can continue to follow an international standard of practice as a possible solution to these issues, but in order to make reporting requirements work properly, the SEC should influence the creation of international standards. There needs to be an international committee to handle interpretations of accepted technological practices and disclosures. The Society of Petroleum Engineers analyzed six different nations' reporting requirements²²⁸ before publishing their best practices reporting disclosures later adopted by the PRMS.²²⁹ Three nations required securities disclosures while the other three required government disclosures.²³⁰ The result was a comprehensive industry standard, but not a standard tailored to securities or a system governed by the regulatory authorities of individual nations. Instead, as a possible solution, representatives from the six nations should meet periodically to discuss issues of interpretation, and subsequently agree to a standard that serves the securities regulators as well as the industry. This would maintain the SEC guidelines consistency with international guidelines while at the same time keeping the SEC in control of oversight and enforcement.

Another alternative is for the SEC to act in a manner entirely self-interested and abandon its efforts to apply guidelines congruent with international standards. The main complaints about the former rules were that they were unaccommodating

227. The purposes for updating the rules have been discussed throughout. See also SEC Press Release, *Meaningful Disclosure*, *supra* note 131.

228. The United States, The United Kingdom, Norway, Russia, China, and Canada, as well as the United States Geological Survey and the United Nations Framework Classification. See SOCIETY OF PETROLEUM ENGINEERS, *supra* note 33, at 2.

229. *Id.* at 37-38.

230. *Id.* at 6-7. Government disclosure is not concerned with showing recoverable volumes and values accruing to individual companies. *Id.* at 7.

to nontraditional oil and gas reservoirs, and that the rules were generally outdated.²³¹ The new rules, however, “consider the significant changes that have taken place in the oil and gas industry since the adoption of the original reporting requirements more than 25 years ago.”²³² The SEC wants to “help ensure more meaningful and comprehensive disclosure of information that, even though it does not appear on a company’s balance sheet, is of significance to investors in making informed investment decisions.”²³³ This can be achieved without deferring to industry standards and international practices.

A clear and distinct set of SEC guidelines prevents confusion. Presently, to comply with the new rules, the industry reserve estimators must navigate the subtleties between the Canadian rules, the PRMS, and SEC specific guidelines.²³⁴ To complicate the matter further, the CSA, the SEC, and the petroleum industry have their own methods of enforcing and interpreting their definitions.²³⁵ In time, these three separate sets of rules could look the same, but be treated differently. In other words, although the wording is the same, the application could diverge. For instance, the term “reasonable certainty,” as used in the new SEC regulations, is defined consistently with the PRMS, but there is no mechanism that keeps the application of the term consistent with the other unless the SEC defers its interpretation and enforcement powers to the PRMS. Therefore, although consistency with PRMS would initially improve compliance with SEC rules,²³⁶ in the long run, different applications will cause confusion. Instead, a distinct set of SEC rules would tailor more to the investor. In doing so, the PMRS rules and other industry guidelines should be used as a tool to draft the new oil and gas regulations but should not be the sole influence. While adopting distinct SEC rules would require oil and gas companies to comply with multiple standards, this seems inevitable regardless of the SEC’s actions. However, if the SEC does adopt its own rules in this manner, their guidelines can address important investor issues otherwise neglected.

231. Concept Release, *supra* note 4.

232. SEC Press Release, Meaningful Disclosure, *supra* note 131.

233. *Id.*

234. *See, e.g.,* Lander, *supra* note 197 (warning clients that SEC rules require use of historical rather than forecasted prices and costs in pricing reserves as required by NI 51-101); Final Rule, *supra* note 1, at 2167 (noting that the SEC rules define reserves in terms of economic productivity rather than the PRMS standard of commerciality).

235. The CSA is a voluntary organization of thirteen Canadian provinces that each regulate securities. Each province in Canada enforces securities laws separately. The SEC has jurisdiction over publicly traded companies in the United States markets. The petroleum industry updates its guidelines periodically, but does not have an enforcement body. About the ASC, *supra* note 202.

236. Final Rule, *supra* note 1, at 2165 (“[W]e agree [with the industry commentators] that consistency with PRMS would improve compliance with our rules.”).

VI. CONCLUSION

The oil and gas industry is intensely competitive and highly technical; companies are large and multinational; prices are volatile; and there is a history of fraud within the industry. The former rules proved insufficient to meet current industry needs and were, in general, outdated. While changes are necessary, the SEC must take a lesson from recent failures—such as the banking crisis and the Royal Dutch Shell case—and become more involved in the regulatory scheme it sets forth for oil and gas reserves estimation. Although the SEC desires to add to a growing international standard, it cannot do so at the expense of its own mission—protecting investors while being reasonable to the industry—or it risks falling into similar pitfalls again.

The new rules adopt many international industry guidelines. If the SEC wishes to fulfill its mission, they should insist on an active role in deciding industry practice. Alternatively, the SEC could create a distinct set of guidelines to meet its own needs, and abandon the effort to harmonize industry standards with securities regulation.

APPENDIX A

In-Place	SPE 2001			SEC 1978	UK-SORP 2001	CSA 2002	RF* 2005	PRO ** 2005	NPD 2001	USGS 1980	UNFC** 2003
	Low Estimate	Increment	High Estimate	Proved	Proven	Proved + Probable	A+B+C1	Measured	Low Est	Measured	Low Est
Recoverable	Increment	Proved (1P)	Proved	Proved	Proven	Proved	A+B+C1	PVEIRR		Measured	111
Commercial Low Estimate	Cumulative	Proved (1P)	Proved	Proven	Proven	Proved	A+B+C1	PVEIRR	Low Est		Low Est
Commercial Best Estimate	Increment	Probable	Probable	Probable	Probable	Probable	C2	PBEIRR		Indicated	112
Commercial High Estimate	Cumulative	Proved + Probable (2P)	Proved + Probable	Proven + Probable	Proven + Probable	Proved + Probable	C2	PSTEUR	Base Est		Best Est
Sub-commercial Low Estimate	Increment	Possible	Possible			Possible				Inferred	113
Sub-commercial Best Estimate	Cumulative	Proved + Probable + Possible (3P)	Proved + Probable + Possible			Proved + Probable + Possible			High Est		High Est
Sub-commercial High Estimate	Increment							PVSEIRR		Measured	121, 231
	Cumulative	Low Est	Low Est			Low Est	Low Est		Low Est		Low Est
	Increment							PBSEIRR		Indicated	122, 232
	Cumulative	Best Est	Best Est			Best Est	Best Est		Base Est		Best Est
	Increment							PSTEUR		Inferred	123, 233
	Cumulative	High Est	High Est			High Est	High Est		High Est		High Est

Table 1: Correlation of Certainty Classes for Discovered Volumes in Different Regulatory Bodies

APPENDIX B

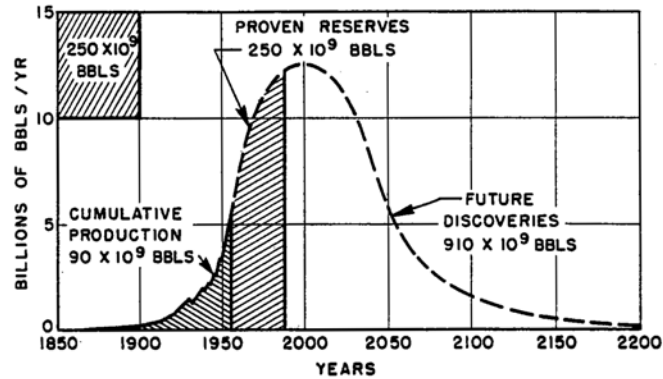


Figure 20 - Ultimate world crude-oil production based upon initial reserves of 1250 billion barrels.

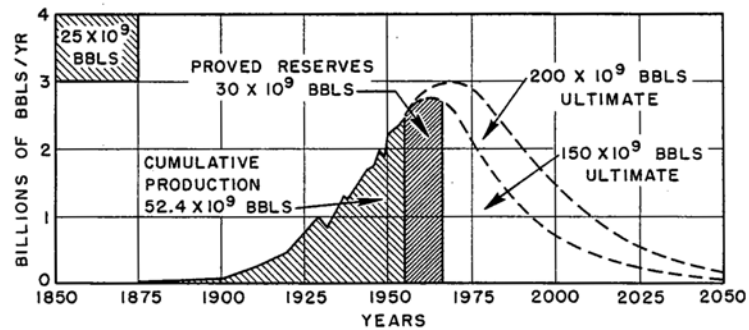


Figure 21 - Ultimate United States crude-oil production based on assumed initial reserves of 150 and 200 billion barrels.

Figure 1: Hubbert's Theory. M. King Hubbert, *Nuclear Energy and the Fossil Fuels*, at 23 (Mar. 7-9, 1956) (presented before the American Petroleum Institute) available at <http://www.hubbertpeak.com/hubbert/1956/1956.pdf>.