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Securities and Exchange Commission
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Re: File Number: S7-29-07
Concept Release 33-8870

The American Clean Skies Foundation (hereinafter "ACSF") is a 501(c)(3) nonprofit educational foundation. ACSF is dedicated to informing the public about energy efficiency, natural gas, and the benefits that come from its use in the form of clean American skies.

The benefits of natural gas are many, as discussed below. To realize these benefits, however, unconventional natural gas sources – including tight sands gas, shale gas and coal bed methane ("CBM") (collectively, "Unconventional Natural Gas Sources") – need to continue to be developed. Yet, as discussed below, Unconventional Natural Gas Sources are specifically excluded from industry reserve reports by current SEC regulations, which impacts the ability of companies to raise capital for this development. Accordingly, ACSF strongly urges the SEC to revise its reserve disclosure regime to allow more accurate reporting of Unconventional Gas Source reserves.

I. The benefits of natural gas and the need to develop Unconventional Natural Gas Sources.

Natural gas is an important source of energy in US markets, representing 22% of total US energy consumption in 2006. It is a major energy source for all end-use sectors including buildings, industry and electricity, providing 19% of US power generation, second only to coal. Indeed, 90% of all new megawatts of power generation capacity added since 1995 are gas-fired. Natural gas also supplies 41% of all energy used by industry.

There are a number of significant reasons for this pervasive use of natural gas. First, natural gas is the cleanest burning fossil fuel, with less than half of the carbon content of coal and about two-thirds that of oil. Natural gas contributes to reduction of several pollutants because of the nearly non-existent levels of NO_x, SO_x, and mercury that are present in the fuel. Furthermore, the fact

that the CO₂ content of natural gas is 43% below that of coal and 28% below oil¹ provides a low carbon emission option, particularly when paired with efficiency, wind, and solar.

Natural gas supplies are also secure. As a domestically stable source of energy, natural gas contributes to the national security of this country now potentially at risk by reliance on foreign fuel sources. Natural gas supply is largely domestic in origin with 81% of gas coming from domestic sources; and an additional 18% coming from Canada. A little over one percent of our domestic supply of natural gas is delivered in the form of liquefied natural gas. Natural gas is largely produced by the roughly 5,000 independent producers who develop virtually all domestic onshore gas (multi-national oil and gas companies produce almost exclusively offshore).²

Finally, natural gas is abundant. Several independent sources have offered proof that more technically-recoverable natural gas is available than was the case even several years ago. Driven by record well drilling, proved reserves of Unconventional Natural Gas Sources have increased to a new record of 105 Tcf at the beginning of 2006, up from 48 Tcf a decade ago. Today, Unconventional Natural Gas Sources account for more than half of the officially reported 196 Tcf of Continental United States proven reserves of natural gas,³ and much of the onshore drilling activity in the Continental United States is focused on developing Unconventional Gas Source formations. And the potential for CBM development is almost unlimited – resources of CBM are reported as between 3,500 and 9,500 Tcf contained in subsurface coal seams around the world, with anywhere from 1,000 to 3,000 Tcf in North America alone.⁴ When totaled, the US and Canadian studies indicate 120 years of recoverable natural gas is available at current rates of consumption.

While natural gas is abundant, worldwide demand for gas is escalating sharply. To meet this growing need, companies are now investing substantial sums in developing Unconventional Natural Gas Sources. Despite this unprecedented activity in developing Unconventional Natural Gas Sources, meeting the escalating worldwide demand for natural gas requires companies to invest in technological advancement and to undertake expensive drilling activity – all of which require companies to raise capital. Reserves are at the core of a company's ability to access the funds needed to meet these huge needs. The SEC's 1978 rules governing the reporting of reserves hinder companies' ability to meet this challenge, as discussed below.

II. Current reserve reporting requirements under report Unconventional Natural Gas Reserves.

Item 102 of Regulation S-K requires that companies disclose their proved reserves and prohibits them from disclosing other categories of reserves. Rule 4-10(a)(2) defines proved reserves as

¹ Energy Information Agency, U.S. Dep't of Energy, *Natural Gas: Issue and Trends*, 49-53 (1998) (available at: http://www.eia.doe.gov/oil_gas/natural_gas/analysis_publications/natural_gas_1998_issues_and_trends/it98.html).

² Independent Petroleum Association of America, *The Costs of Oil & Natural Gas*, http://www.ipaa.org/news/oil_gas_prices/.

³ Energy Information Administration, U.S. Dep't of Energy, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2005 Annual Report* (2006).

⁴ Donna Garbutt, *Schlumberger: Unconventional Gas White Paper*, 2 (2004).

"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 known reservoirs under existing economic and operating conditions, *i.e.*, prices and costs as of the date the estimate is made." Thus, the current SEC definition of reserves focuses on proved reserves as defined by a standard of "reasonable certainty," which in turn is pegged to "direct contact" with an existing well. These definitions are unsuited to accurate reporting of reserves of Unconventional Natural Gas Sources for several reasons.

First, Rule 4-10 states that "oil and gas producing activities do not include . . . [t]he extraction of hydrocarbons from shale, tar sands, or coal." 17 C.F.R. 210.4-10(a)(1)(ii)(D). Thus, regardless of a company's ability to economically extract natural gas or oil from tar sands and oil shales, Rule 4-10 prevents it from including these amounts in its estimates of proved reserves." 17 C.F.R. 210.4-10(a)(1)(iii)(D).

There is no good reason for this exclusion to continue. Indeed, the SEC recognizes that current technology makes these resources more available and predictable: "When the Commission adopted the proved reserves definition in 1978, the only effective way to extract natural gas and chemical compounds that can be processed into oil from tar sands and oil shales was through traditional mining techniques. Since 1978, however, companies have developed techniques to extract these compounds using oil and gas drilling techniques. Despite these technological advances, Rule 4-10 prohibits a company from including the hydrocarbons it may extract from many unconventional resources in its estimation of proved reserves."⁵ As technological innovation transforms what was previously considered to be noncommercial resources into future proved reserves, the SEC needs to amend its rules to address this change.

Additionally, exploration and production ("E&P") companies operating horizontal wells are in practice being prevented from claiming as proven reserves gas that is economically producible and reasonably certain of production from offsetting productive units. Due to improvements in horizontal drilling techniques and fracture stimulation technologies, more companies use horizontal drilling to cover a large continuous reservoir area and to enhance recovery rates in the ultra low permeabilities encountered in tight sands and shale formations.

Despite the significance of horizontal drilling in the development of Unconventional Natural Gas Sources, the SEC has penalized its use in the context of reserves reporting. While it has not promulgated a rule addressing such drilling, the SEC has imposed, through its interpretation of Rule 4-10, a limit of two offsets for estimating proved reserve estimates for Unconventional Natural Gas Sources. Conversely, the SEC has allowed for vertical wells in conventional water-drive reservoirs up to eight offsetting well locations around a productive vertical well for designating proven undeveloped reserves where discrete accumulations of gas or gas condensate resources have been delineated.

⁵ *Concept Release on Possible Revisions to the Disclosure Requirements Relating to Oil and Gas Reserves*, Exchange Act Release Nos. 33-8870; 34-56945, 72 Fed. Reg. 242, at 71612 (proposed Dec. 18, 2007).

There is no sound reason for the SEC to restrict the designation of proven undeveloped reserves for horizontal drilling. The hydrocarbons extracted and produced from unconventional reservoirs are commonly commingled with hydrocarbons produced from conventional reservoirs. Accordingly, gas from either an Unconventional Gas Source reservoir or from a conventional sandstone or limestone formation must undergo the same types of conditioning in order to meet pipeline gas quality specifications – namely, compression, dehydration, treatment for H₂S and CO₂ removal, and natural gas liquids extraction -- to be accepted for delivery into gas transmission lines. The value and quality of the conditioned gas is the same whether it came from a conventional or Unconventional Gas Source reservoir.

The consequences of this under-reporting of reserves from Unconventional Natural Gas Sources are significant. Companies are evaluated by its shareholders and other stakeholders based upon the accuracy of its reserves reporting. In particular, reserves reporting directly impact the amount of capital a company can raise in the marketplace. Meeting the escalating worldwide demand for natural gas requires investment in technological advancement and a substantial increase in the amount and complexity of drilling activity – all of which require companies to raise capital. Reserves are at the core of a company's ability to access the funds needed to meet these huge needs. The SEC's 1978 rules hinder companies' ability to meet this challenge.

III. Suggestions as to how the SEC should remedy this problem.

The SEC should consider several changes to its reserve reporting rules. Most significantly, the SEC should modify Rule 4-10 to eliminate the current exclusions for shale gas and coal bed methane. Specifically, the SEC should include “extraction of hydrocarbons from shale or coal” in the definition of “oil and gas producing activities.” The SEC should also include “natural gas and natural gas liquids that may be recovered from shales, coal and other sources such as so-called tight sands” in the definition of “proved reserves.”

Additionally, ACSF recommends that the SEC define “unconventional/continuous reservoirs” as distinct from conventional reservoirs. No such definition exists now. This definition should follow language similar to either the AAPG Bulletin V.86 (November 2003) or the U.S.G.S. 1995 National Assessment of U.S. Oil and Gas Resources. The AAPG Bulletin states: “there is a fundamentally important geologic distinction: conventional gas resources are buoyancy-driven deposits and, occurring as discrete accumulations in structural or stratigraphic traps, whereas unconventional gas resources are generally not buoyancy-driven accumulations. They are regionally pervasive accumulations, most commonly independent of structural and stratigraphic traps.” The U.S.G.S. 1995 National Assessment of U.S. Oil and Gas Resources defines “unconventional/continuous reservoirs” as: “Common geologic characteristics of a continuous-type accumulation include...lack of obvious trap and seal, crosscutting of lithologic boundaries, large aerial extent, relatively low matrix permeability... and close association with source rocks.”

With respect to reservoirs defined as “unconventional/continuous,” the SEC should also recognize the advances that have been made in technology, and allow this technology to be used for estimating reserves from Unconventional Natural Gas Sources. Technological advances such as 3-D seismic interpretation, computer simulation of reservoirs to determine original-in-place

volumes, use of modern logging tools and analytical techniques for hydrocarbon identification have provided companies with increased information about Unconventional Gas Source reservoirs and their boundaries. The SEC should promulgate rules that allow this technology to be used in estimating recoverable hydrocarbons over large areas by examining formation size, thickness, and “economic producibility” potential. These changes should apply provisions in U.S.G.S. Circulars 831 and 891, which establish guidelines for estimating proven reserves for minerals and coal.

Finally, the SEC should stop differentiating, and penalizing, horizontal completions from traditional vertical wellbores. The SEC wrote to Parallel Petroleum in a response letter dated July 9, 2007, "However, as previously discussed, you should limit estimates of proved undeveloped reserves from future horizontal wells to two parallel offset wells to a productive horizontal well. Please confirm that in the future you will limit proved undeveloped reserves from horizontal wells to these amounts unless you have demonstrated productive continuity through pressure communication between wells more than an offset location away and on either side of a future horizontal well."

The current pressure communication test for horizontal wells is an insufficient exception. Because of the extremely low permeability of unconventional natural gas formations, these natural gas sources are not conducive to establishing pressure communication between wells. Booking of proven undeveloped reserves for unconventional sources should also not be based upon a 2:1 parallel offset rule. Instead, ACSF recommends the SEC promulgate a rule for horizontal wells that takes into account state-of-the-art technological developments in the industry. Natural gas reserves might be calculated for each of several zones along the horizontal gas well laterals, taking into account that E&P companies and service companies now have significant experience in multi-stage hydraulic fracturing jobs along horizontal well laterals through shale gas formations. Moreover, proven natural gas reserves can now be calculated at a significantly greater distance from known productive horizontal wells than the SEC's current 2:1 parallel offset rule allows.

IV. Additional comments on specific SEC questions.

Question No. 10: Appropriate price framework for estimating reserves. The current reserve pricing system, which requires that single day end-of-year pricing be used on a going-forward basis over the next calendar year, does not accurately reflect the reality of the natural gas market or natural gas reserve values. The majority of natural gas reserves are long-term assets. Because natural gas is a non-regulated commodity that fluctuates daily, the end-of-year price rarely, if ever, approximates natural gas prices for the next year. ACSF recommends the establishment of a new price framework that more accurately reflects the realities of the natural gas market.

Question No. 14: Establishment of a disclosure framework that accommodates technological advances. ACSF supports the establishment of a disclosure framework that accommodates the swift-moving technological advances in the natural gas industry. ACSF recommends the SEC establish an independent advisory board that would provide guidance to the industry and to the SEC regarding natural gas reserve reporting. Moreover, rather than list the current technologies that would now be acceptable for determining reserves, the SEC should allow the advisory board to maintain a flexible approach that recognizes how advancing

technology is changing the process of estimating and proving reserves. This approach permits technological advances to be recognized and allows for more frequent updates to reserve reporting rules guidelines when necessary.

In sum, the SEC's reserve disclosure regime is outdated and in need of modernization. The 1978 rules are particularly ill-suited to appropriately estimate proven reserves of Unconventional Natural Gas Sources. The SEC should modify its reserve rules to reflect the significant changes to the gas industry during the past 28 years, including the types of hydrocarbons being recovered and the advance of technology. Without these changes, natural gas companies will continue to under-report reserves, which will in turn significantly impact the accuracy of reporting and companies' ability to raise funds necessary for the increasingly complex and costly recovery of Unconventional Natural Gas Sources.

Thank you for considering our views.

Sincerely,

(Signed)

Denise Bode
Chief Executive Officer
American Clean Skies Foundation