

## C O M M E N T

# Reflections on *A Market Approach to Regulating the Energy Revolution*

by Tom FitzGerald

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These reflections are the author's own and are not presented in either of his professional capacities.

**A**s a practitioner who has represented low-income individuals and community groups pro bono on environmental and energy development issues for over three decades, I appreciate the contribution of Professors Dana and Wiseman to the literature concerning the regulation of those particular risks and effects of the use of hydraulic fracturing and horizontal drilling to develop shale gas and oil from formations once considered inaccessible. Coming from a state that, like some 23 others in our nation, has enshrined in law a misguided, discredited policy of being “no more stringent than” minimum federal standards on air, water, and waste management, I can appreciate the particular challenges of crafting adequate mechanisms in state laws in the absence of a national regulatory framework with performance standards and compliance assurance mechanisms sufficient to assure that the risks associated with each stage of shale gas development—from exploration, well development, and stimulation to closure and site reclamation—are internalized rather than being shifted “off budget” onto those who live downhill and downstream.

Kentucky is not unique in its current level of regulation of the oil and gas industry. Most of the production from shales in Kentucky has been through nitrogen foam fracturing of more shallow vertical and horizontal wells, though there has been recently-expressed interest in exploration of deeper formations that would be hydro-fractured and horizontal wells. In 1960, Kentucky became a signatory to the Interstate Oil and Gas Compact and adopted state regulations aimed at conservation of the oil and gas resource, including well spacing, design, cementing, and other basic standards for well closure. In the 1970s, in response to the efforts of one county government to regulate gathering lines, the General Assembly preempted local

government regulation of the oil and gas industry (other than through planning and zoning). Kentucky requires performance bonds intended to provide for proper closure of wells; however, the allowance of “blanket bonds” and the limitations both on the amount of the bond and the uses that can be made of the bond monies leave the public and landowners on whose property exploration and production occur at risk in the case of non-performance.

I agree with the authors that, if engaged, the surety and insurance industry could become valuable partners in assisting in the mitigation of risks associated with hydrofractured horizontal well production. We have a historical example in Kentucky's coal industry, where a coal surety firm, founded and managed by a former state mining inspector, wrote policies and took an active role, uncharacteristic of the surety industry, in inspecting the mining operations and suggesting that actions be taken in order to mitigate risks through better mining and reclamation practices.

There are three main difficulties I see in the proposal to use insurance and surety mechanisms as a tool for mitigating risks. The first, recognized by the authors, is the concept of “regulatory capture.” In both the legislative and executive branches of state government, efforts to require full internalization by the industry of the costs associated with permitting, inspection, regulatory compliance, and site management and closure often face significant opposition from those in government allied with the industry's interests. Overcoming regulatory capture is essential to emplace bonding and other financial assurance requirements sufficiently rigorous to cause changes in operational performance in order to lessen or mitigate risks. One can look to the bonding programs under the 1977 Surface Mining Control and Reclamation Act to see the challenge. In that case, there was a federal mandate for full-cost rec-

lamation bonding. Yet 38 years out, there are still many states where the amount of bond posted is significantly less than needed to assure full reclamation in the event of operator non-performance.<sup>1</sup>

The second hurdle is that of anticipating and mitigating risks that have a “long tail,” such as the closure of wells or reclamation of drilling pads and associated production areas, that may occur decades after the initial completion of the well and commencement of production. One can look to the financial markets in the last decade to see how difficult it is to predict whether an underwriting insurer or surety company will remain in business with assets sufficient to pay decades after the writing of a policy. Assuring there will be funds in 40-50 years to back up a promise made today is a daunting challenge.

The third challenge relates to the second, and that is whether the oil and gas industry could access insurance products that would underwrite these long-tail risks. The history of the Underground Storage Tank (UST) program under the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act is an instructive example of this concern, since many states moved to publicly supported funds to provide insurance coverage because the insurance industry would not write policies insuring USTs from leakage, property damage, or personal injury.<sup>2</sup>

To say that the revolutionary development of hydrofractured horizontal wells has been controversial is an understatement of epic proportion. The heavy footprint of these operations, particularly in areas of the nation that historically have not seen industrial-scale natural resource extraction, has created significant local and state-level pushback from host communities and local governments. The industry brought much of this on itself by its repeated tone-deaf actions. For example, the industry sought regulatory exclusions to national underground injection control programs that would have otherwise insured the integrity of injection wells and receiving formations. Similarly, they sought regulatory exemptions to water pollution laws for sediment and runoff from well pads. Even now, industry continues to try to hide the identity of chemicals used in the fracturing process from the public. The industry would do well to better respect the correlation between risk and outrage, to engage state and local governments and communities in a more transparent manner, and to embrace meaningful standards of performance backstopped by sufficient financial assurance and compliance mechanisms as a cost of doing business.

Kentucky offers an example of how to develop such a program. Recognizing that the development of deep hori-

zontal wells using hydrofracturing was a possibility in Kentucky’s short-term future, and noting the controversy that has attended the industry in other states, the Kentucky oil and gas industry worked proactively through a consensus-based process with other stakeholders (including this author) to begin to modernize the regulatory framework for the oil and gas industry in Kentucky.

The first product of that eight-month process was enacted into law in the spring of 2015 as Senate Bill 186. It requires:

- Reclamation plans for all oil and gas production operations, including site closure;
- A fund for reclamation of abandoned tank batteries and a process for determining whether a tank battery is abandoned;
- Testing of any groundwater wells, springs, or down-gradient surface impoundments used for beneficial purposes, both before and after the drilling of a hydrofractured horizontal well, for TDS, methane, propane, ethane, alkalinity, BTEX, and gross alpha and beta;
- A cap on the number of wells that can be insured under a blanket bond, and an increase in permit fees and bonding amounts;
- A requirement to disclose information on the volume and composition of fluids used for well stimulation, and a limitation that the chemical identity of fracturing fluids cannot be claimed to be trade secret;
- A requirement to incorporate best management practices into site development and restoration.<sup>3</sup>

One issue that is anticipated to be resolved during 2015 workgroup negotiations is the development of assurance mechanisms such as those proposed by Professors Dana and Wiseman for addressing the long-tail risks associated with the closure of wells and completion of reclamation. Coal again provides an example of how to address the risk of nonperformance and to mitigate long-term unforeseen impacts, through the use of a “bond pool” or “pooled risk” mechanism funded through a combination of entry fees and production-based assessments. The use of a bond pool mechanism in lieu of, or preferably as an adjunct to, individual insurance or surety mechanisms is intended to provide funds in hand, managed by the regulatory agencies and funded through assessments paid during the productive life of the well, in order to provide a funded backstop in the event of nonperformance by the operator of closure and reclamation obligations. The funding would include an “entry” fee, in order to help capitalize the fund during the early years until it achieves actuarial soundness,

1. See Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. §1201 (2014).

2. See Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. §6901 (2014).

3. See S.B. 186, 2015 Leg., 15 Reg. Sess. (Ky. 2015).

supplemented by a production-based assessment to assure continued capitalization during the productive years of the wells. This mechanism, whether used in lieu of or in conjunction with individual insurance policies or surety bonds, helps to address the long tail between the posting of financial assurance mechanisms, and the time when the commitment to pay those funds may need to be discharged in order to insure that the risks of nonperformance

of reclamation and well closure obligations do not fall to downhill and downstream landowners and to owners of the property where the production had occurred.

The author thanks Professors Dana and Wiseman for their contributions to the growing body of scholarly research regarding the regulation of impacts of the “shale gas revolution.”