

Department of Legislative Services

Maryland General Assembly

2017 Session

FISCAL AND POLICY NOTE

First Reader

Senate Bill 740

(Senator Zirkin, *et al.*)

Education, Health, and Environmental Affairs

Oil and Natural Gas - Hydraulic Fracturing - Prohibition

This bill redefines “hydraulic fracturing” as the stimulation treatment performed on oil and natural gas wells in low-permeability oil or natural gas reservoirs through which specially engineered fluids are pumped at high pressure and rate into the reservoir interval to be treated, causing fractures to open. The bill prohibits a person from engaging in the hydraulic fracturing of a well for the exploration or production of oil or natural gas in the State.

Fiscal Summary

State Effect: General/special fund revenues associated with general economic activity decrease, potentially beginning in FY 2018, to the extent that the bill prevents the development of natural gas resources that would occur in the absence of the bill, as discussed below. The Maryland Department of the Environment (MDE) can enforce the bill with existing resources.

Local Effect: Local severance tax revenues and other revenues associated with general economic activity decrease for Allegany and Garrett counties, potentially beginning in FY 2018, to the extent that the bill’s prohibition results in less development of gas resources than would occur in the absence of the bill, as discussed below.

Small Business Effect: Potential meaningful.

Analysis

Current Law/Background:

Definition of Hydraulic Fracturing

Under the Environment Article, “hydraulic fracturing” means a technique that expands existing fractures or creates new fractures in rock by injecting fluids, often a mixture of water and chemicals, sand, or other substances, and often under pressure, into or underneath the surface of the rock for purposes that include well drilling for the exploration or production of natural gas. “Hydraulic fracturing” includes fracking, hydrofracking, and hydrofracturing.

Permits Required

A person must obtain a permit from MDE before drilling a well for the exploration, production, or underground storage of gas or oil in Maryland. A permit is also required for the disposal of any product of a gas or oil well. An applicant that wants to extract gas from the Marcellus Shale may also be required to apply for a number of other State environmental permits. MDE regulates gas exploration and production and has broad authority to impose conditions on permits to protect the State’s natural resources and to provide for public safety. Further, MDE may deny a permit based on a substantial threat to public safety or a risk of significant adverse environmental impact.

Maryland Department of the Environment Regulations Related to Hydraulic Fracturing

Current oil and gas exploration regulations were adopted before techniques like hydraulic fracturing and horizontal drilling were widely used in this region and have not been revised since 1993. These regulations apply to all oil and gas wells in Maryland, are not specific to the practice of hydraulic fracturing and, in some cases, are incompatible with modern industry practices. Applications for permits to produce natural gas in Maryland using horizontal drilling and high-volume hydraulic fracturing were first filed with MDE in 2010 but were subsequently withdrawn.

MDE published regulations in the *Maryland Register* on January 9, 2015, to implement many of the best practices identified in the final report of the Marcellus Shale Safe Drilling Initiative Advisory Commission report, but the regulations were subsequently withdrawn. Chapters 480 and 481 of 2015 required MDE to adopt regulations to provide for the hydraulic fracturing of a well for the exploration or production of natural gas by October 1, 2016; the Acts also prohibited the regulations from taking effect until October 1, 2017, and prohibited MDE from issuing a permit to drill a well using hydraulic fracturing until October 1, 2017. MDE published another set of oil and gas exploration

and production regulations in the November 14, 2016 edition of the *Maryland Register*. In late December 2016, the Joint Committee on Administrative, Executive, and Legislative Review (AELR Committee) placed a hold on the regulations to allow the committee to conduct a more detailed study of the regulations.

More information on the practice of hydraulic fracturing in Maryland, including environmental and public health concerns, recent State and local legislation, and the Marcellus Shale Safe Drilling Initiative, may be found in the **Appendix – High-volume Hydraulic Fracturing in Maryland**.

State/Local Fiscal Effect: A prohibition on the extraction of shale gas resources in the State through the use of hydraulic fracturing may directly affect future severance tax revenues in Allegany County and, to a greater extent, Garrett County; other sources of State and local revenue from general economic activity may also be indirectly impacted. The State does not currently impose a severance tax on gas production. The current law prohibition on issuing a permit to drill a well using hydraulic fracturing terminates October 1, 2017, when the bill takes effect. However, it is assumed that, in the absence of the bill, MDE will likely not issue any permits for hydraulic fracturing in the Marcellus Shale until after updated regulations are published, and it is unknown when that will occur, given that the regulations are currently on hold by the AELR Committee. Further, the extent of any future hydraulic fracturing activity that does occur in Maryland depends on the requirements established under regulation and on economic conditions. Thus, it is unknown when and if any gas well drilling will be authorized in the absence of the bill. Currently, there are no permit applications related to hydraulic fracturing pending before MDE.

Small Business Effect: The bill may have a meaningful adverse impact on small businesses engaged in providing services related to hydraulic fracturing and the development of natural gas resources to the extent the bill prevents such development that would otherwise occur in the absence of the bill. The bill may have a meaningful beneficial impact on small businesses in Western Maryland reliant upon tourism to the extent that the development of natural gas resources would impact the levels of tourism in the area; however, any such impact is unclear.

Additional Information

Prior Introductions: None.

Cross File: HB 1325 (Delegate Fraser-Hidalgo, *et al.*) - Environment and Transportation.

Information Source(s): Allegany County; Maryland Department of the Environment; U.S. Environmental Protection Agency; U.S. Geological Survey; Department of Legislative Services

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md/lgc

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Appendix – High-volume Hydraulic Fracturing in Maryland

The Marcellus Shale formation is a geologic feature found throughout the northern Appalachian basin that has attracted significant attention from the energy industry for its rich natural gas and liquids resources contained within seven states. In Maryland, the primary anticipated areas of potential gas production from the Marcellus Shale formation are in Garrett and western Allegany counties. However, according to the U.S. Geological Survey (USGS), there may be additional natural gas resources located in several other counties in the State, including in the Taylorsville basin, the Delmarva basins, the Culpeper basin, and the Gettysburg basin. A map of these basins is available in a June 2012 [fact sheet](#) published by USGS.

Concerns Regarding High-volume Hydraulic Fracturing

As the use of hydraulic fracturing has increased, so has concern about its potential impacts. The Maryland Department of the Environment (MDE) has advised that, although accidents are relatively rare, exploration for and production of natural gas in nearby states have resulted in injuries, well blowouts, releases of fracturing fluids, releases of methane, spills, fires, forest fragmentation, road damage, and evidence of water contamination.

In 2010, the U.S. Environmental Protection Agency (EPA) raised several concerns regarding the impact of hydraulic fracturing on water supplies, water quality, and air quality, among other issues, and is currently examining the practice more closely. In April 2012, EPA adopted a final rule to address air emissions from hydraulic fracturing. In December 2016, EPA released a final [report](#) entitled *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*. In the report, EPA states that it found scientific evidence that hydraulic fracturing activities can impact drinking water resources under some circumstances. The report also identifies certain conditions under which impacts from hydraulic fracturing can be more frequent or severe.

EPA also has a series of peer-reviewed studies of various aspects of hydraulic fracturing publicly available on the agency's website. Other states, academic and environmental organizations, and the oil and gas industry are also conducting research into the impacts of hydraulic fracturing on public health, safety, and the environment. On December 17, 2014, Governor Andrew M. Cuomo of New York prohibited the practice of high-volume hydraulic fracturing in New York State following the release of a multi-year study conducted by the New York State Department of Health that recommended a ban until sufficient information on the risks of the practice became available.

State Legislation Related to Hydraulic Fracturing

Chapters 480 and 481 of 2015 required MDE to update regulations for well drilling permits and established a moratorium on issuing permits for hydraulic fracturing until October 1, 2017. Chapter 568 of 2013 established specified financial assurance requirements for a well permit holder and requires a permit holder to have specified comprehensive general and environmental pollution liability insurance coverage. Chapter 703 of 2012 established a presumptive impact area applicable to areas around a deep shale gas deposit well for which MDE has issued a gas exploration or production permit. In a presumptive impact area, it is presumed that contamination of a water supply was caused by the activities of gas exploration or production.

Local Action Related to Hydraulic Fracturing

Locally, due to concerns regarding air and water pollution and the impact that hydraulic fracturing may have on the region's tourism and outdoor recreation industries, two Garrett County municipalities, the Town of Mountain Lake Park (in April 2011) and the Town of Friendsville (in July 2016), adopted ordinances that effectively ban hydraulic fracturing within their borders. Additionally, in April 2016, the Prince George's County Council altered the county's zoning laws to prohibit hydraulic fracturing and related activities in the county. Although the Marcellus Shale formation is not located in Prince George's County, according to USGS, an area in the southern part of the county may be an untapped natural gas reserve.

Marcellus Shale Safe Drilling Initiative

In 2011, Executive Order 01.01.2011.11 established the Marcellus Shale Safe Drilling Initiative. The executive order directed MDE and the Department of Natural Resources (DNR) to assemble and consult with an advisory commission to assist policymakers and regulators in determining whether and how gas production from the Marcellus Shale in Maryland can be accomplished without unacceptable risks of adverse impacts to public health, safety, the environment, and natural resources. Specifically, the executive order tasked MDE and DNR, in consultation with the advisory commission, with conducting a three-part study and reporting recommendations. The advisory commission terminated on May 1, 2015, after publication of its final report, *Assessment of Risks from Unconventional Gas Well Development in the Marcellus Shale of Western Maryland*. The [final report](#), which was published in December 2014, recommended best practices and concluded that, with implementation, monitoring, and enforcement of those best practices, "the risks of Marcellus Shale development can be managed to an acceptable level." The best practices identified in the report have informed MDE's recent regulatory proposals.