

**Department of Legislative Services**  
Maryland General Assembly  
2014 Session

**FISCAL AND POLICY NOTE**

House Bill 1030

(Delegate Morhaim, *et al.*)

Environmental Matters

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**Public Health - Hydraulic Fracturing Chemicals - Information and Fund**

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This bill requires an applicant for a permit to hydraulically fracture a well to submit to the Department of Health and Mental Hygiene (DHMH) information about the chemicals to be used in hydraulic fracturing, as well as other specified information. DHMH must provide access to this information to specified entities, including the Maryland Poison Center, specified public health professionals that submit a statement of need for the information, and a health care provider who requests the information as a result of a patient that may have been injured by a chemical used in hydraulic fracturing. The information may be shared by a health care provider with other specified parties. The bill establishes a fee to be paid by a party submitting the required information and a fund supported by fee revenues to be used to address the potential health risks associated with chemicals used in hydraulic fracturing, among other things. The bill also establishes a civil penalty for submitting false information or otherwise violating the bill's information submission requirements; penalty revenues are directed to the new fund. DHMH must adopt regulations to implement the bill.

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**Fiscal Summary**

**State Effect:** General and/or special fund expenditures may increase beginning in FY 2015 for DHMH to hire additional personnel to implement the bill to the extent that any applications for permits to hydraulically fracture a well are submitted. Special fund expenditures from the new fund may increase beginning in FY 2015 for the provision of financial assistance for individuals injured by hydraulic fracturing chemicals. Special fund revenues may increase from the collection of fees and penalties established by the bill. General and/or special fund revenues associated with general economic activity may decrease to the extent that the bill reduces development of gas resources that would occur in the absence of the bill, as discussed below.

**Local Effect:** Local severance tax revenues and other revenues associated with general economic activity may decrease for Allegany and Garrett counties, beginning in FY 2015, to the extent that the bill reduces development of gas resources that would occur in the absence of the bill, as discussed below.

**Small Business Effect:** Potential meaningful.

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## Analysis

### Bill Summary:

#### *Information Submission and Other Requirements*

An applicant for a permit to hydraulically fracture a well must submit to DHMH information relating to each chemical constituent that will be used in the hydraulic fracturing of the well, including specified information about each chemical. The applicant must also report the location of the portion of the well in which the hydraulic fracturing will take place, the anticipated extent of the fractures or other modifications to the shale or underground geologic formation, specified health and safety data relating to the chemicals that will be used, and information on chemical changes or reactions that may occur as a result of the hydraulic fracturing of the well.

DHMH must provide access to the chemical information collected under the bill to the Maryland Poison Center, specified public health professionals who submit a written statement of need, and to a health care provider – on request – who suspects a patient may have an illness or injury caused by a chemical used in hydraulic fracturing. A health care provider may share the information as professionally necessary, including with the patient, any other health professional involved in the treatment of the patient, a family member of the patient if the patient is unable to make medical decisions or is a minor, and with the U.S. Centers for Disease Control and Prevention or other government public health agency. A health care provider, health professional, or government agency must maintain that information and patient medical records in accordance with any law or regulation relating to confidentiality.

DHMH must establish an educational program for health care providers on the potential health risks associated with chemicals used in hydraulic fracturing. DHMH must also adopt regulations to implement the bill.

A person that knowingly or recklessly submits false information required by the bill, or that otherwise violates the information submission requirements of the bill, is subject to a civil penalty of up to \$10,000 for each violation.

### *New Fee and Fund*

The bill requires DHMH to establish a fee by regulation to be paid by an entity submitting the information required by the bill. The fee must be based on the cost to DHMH of establishing the educational program required by the bill, the potential public health and safety risk of injury or illness from chemicals used in hydraulic fracturing, and the administrative costs of implementing the bill.

The bill also establishes a Hydraulic Fracturing Chemical Education and Impact Fund, administered by DHMH, to address the potential health risks associated with chemicals used in hydraulic fracturing. The fund consists of revenues from the fee and penalties established by the bill, as well as other appropriations in the State budget, investment earnings – which may not revert to the general fund – and money from any other source. The fund may be used only for financing the required educational program, providing financial assistance to a person that has an illness or injury caused by a chemical used in hydraulic fracturing, and DHMH's reasonable administrative costs.

**Current Law:** The Maryland Department of the Environment (MDE) is authorized to issue permits for oil and gas exploration and production and is required to coordinate with the Department of Natural Resources (DNR) in its evaluation of the environmental assessment of any proposed oil or gas well. Specifically, 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 who wants to extract gas from the Marcellus Shale may also be required to apply for a number of other State permits, such as a water appropriation permit or a National Pollutant Discharge Elimination System permit.

Current regulations apply to all gas wells in Maryland and are not specific to the practice of hydraulic fracturing. Although MDE regulates gas exploration and production, the regulations were written prior to the use of hydraulic fracturing and have not been revised since 1993. However, under current law, MDE has broad authority to impose conditions on permits to protect the State's natural resources and to provide for public safety. Specifically, MDE regulations require a permit applicant to request approval before any additives to drilling liquids may be used.

**Background:** In preparation for completion of the final report of the Marcellus Shale Safe Drilling Initiative, MDE and DNR have commissioned a public health study on the effects of Marcellus Shale development by the Maryland Institute for Applied Environmental Health of the University of Maryland. The public health study will include public scoping meetings to set study boundaries and objectives; a baseline assessment of current regional population health, including demographics, causes of morbidity and mortality, local health priorities, vulnerable populations, local health care

and social infrastructure; an impact assessment of potential public health impacts, including hazards and known health impacts both directly and indirectly associated with hydraulic fracturing; and a final report of the study findings, monitoring and assessment recommendations, and public health response and mitigation strategies.

According to a March 2013 report from the National Conference of State Legislatures, one of the key issues involved in the state regulation of hydraulic fracturing is the required disclosure of fracturing fluid components. While some states considered bills requiring more limited disclosure of fluid additives, other bills would have required full disclosure of all fluid constituents. Conflict with company trade secrets has been one point of particular controversy for states considering such bills. In total, 14 states considered 35 bills on the issue of disclosure in 2012, and 3 states enacted laws. Several other states had previously enacted laws or adopted regulations governing the disclosure of hydraulic fracturing fluids, and other states may have taken more recent legislative or administrative action on the issue since 2012.

More information on the practice of hydraulic fracturing, the Marcellus Shale, and the Marcellus Shale Safe Drilling Initiative may be found in the **Appendix – High-volume Hydraulic Fracturing in the Marcellus Shale**.

**State Expenditures:** General and/or special fund administrative expenditures may increase by \$157,719 in fiscal 2015 to the extent that DHMH hires personnel beginning January 1, 2015, following any issuance of permit applications by MDE for hydraulic fracturing in the Marcellus Shale (following completion of the Marcellus Shale Safe Drilling Initiative). DHMH advises that, if permit applications are approved, then it needs one public health laboratory chemist to evaluate chemical information and data submitted by permit applicants; one community health educator to develop and conduct the educational outreach program required by the bill; and one program administrator and office secretary responsible for all administrative aspects of the bill’s implementation. Additionally, DHMH advises that one nurse may be needed by July 1, 2016 (fiscal 2017), to evaluate any claims of compensation for injuries or illnesses to the extent that hydraulic fracturing has occurred prior to that date.

|   | <u><b>FY 2015</b></u> | <u><b>FY 2017</b></u> |
|---|-----------------------|-----------------------|
| New Positions                                 | 4                     | 1                     |
| Salaries and Fringe Benefits                  | \$139,939             | \$388,517             |
| Start-up and Operating Expenses               | <u>17,780</u>         | <u>7,328</u>          |
| <b>Total DHMH Administrative Expenditures</b> | <b>\$157,719</b>      | <b>\$395,845</b>      |

Future year expenditures reflect full salaries with annual increases and employee turnover as well as annual increases in ongoing operating expenses.

Although the bill requires that DHMH establish fees to cover its administrative costs, fee revenues may not be available for a portion, or the entirety, of fiscal 2015 or 2016, and may not be sufficient to cover the initial personnel and administrative costs. Thus, it is assumed that initial expenditures are covered at least in part by general funds. General funds may no longer be needed to the extent that a sufficient number of permit applications and fees are received in future years.

This estimate does not account for any expenditures associated with the payment of financial assistance to a person injured by a chemical used in hydraulic fracturing, as authorized by the bill. It is unknown how many such injuries may occur in any fiscal year or how much assistance may be provided, as discussed further below.

The impacts described above may begin in future years, rather than in fiscal 2015, depending on when permit applications are first approved by MDE.

**State Revenues:** Special fund revenues increase to the new fund as a result of the fee established by DHMH to cover its administrative costs and to provide financial assistance to those injured by chemicals used in hydraulic fracturing. A reliable estimate of the fee revenues cannot be made due to uncertainty regarding the timing and frequency of permit applications received by MDE, the effect that the bill may have on the industry (as discussed further below), the level of financial assistance provided to those injured by hydraulic fracturing chemicals, and the level of fees established by DHMH – including any future changes to the fees.

The Marcellus Shale Safe Drilling Initiative Advisory Commission and related State agencies have commissioned a study of the economic impacts of natural gas production from high-volume hydraulic fracturing in the Marcellus Shale, which is being undertaken by the Regional Economic Studies Institute (RESI) of Towson University. RESI has developed several scenarios used for modeling future economic and fiscal impacts of Marcellus Shale development. **Exhibit 1** shows the number of wells that might be drilled under a low- and high-extraction scenario, which is based on a recent U.S. Geological Survey resource projection and several additional assumptions.

As shown in the exhibit, RESI assumes that the initial extraction of gas does not occur until fiscal 2017, although the application for, and approval of, permits may occur in fiscal 2015 or 2016. For purposes of this fiscal and policy note, it is assumed that the permit application for each of the wells represented in Exhibit 1 is received in the prior fiscal year, along with the fee required by the bill.

Given the estimated range in the number of wells to be drilled, and the personnel and other administrative costs discussed above, the level of fee established by DHMH might need to be set at a minimum of \$3,900 in fiscal 2016 to cover administrative costs if

36 permit applications are received (based on high-extraction scenario); if the low-extraction scenario is used instead, then, based on an assumption that 8 permit applications are received, DHMH might need to establish a fee of at least \$17,500. In order to establish a prudent fund balance, and in anticipation of injury claims to the fund that may occur once drilling commences, the fee may be set toward the upper-end of this range.

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**Exhibit 1**  
**Estimated Number of Wells and Production for Each Extraction Scenario**  
**Fiscal 2016-2026**

| <u>Fiscal Year</u> | <u>Low-extraction Case Wells</u> | <u>High-extraction Case Wells</u> |
|--------------------|----------------------------------|-----------------------------------|
| 2016               | 0                                | 0                                 |
| 2017               | 8                                | 36                                |
| 2018               | 16                               | 72                                |
| 2019               | 29                               | 63                                |
| 2020               | 22                               | 54                                |
| 2021               | 18                               | 63                                |
| 2022               | 15                               | 42                                |
| 2023               | 12                               | 36                                |
| 2024               | 12                               | 36                                |
| 2025               | 12                               | 36                                |
| 2026               | 6                                | 12                                |
| <b>Total</b>       | <b>150</b>                       | <b>450</b>                        |

Note: This fiscal and policy note assumes that the permit application for each well is received in the fiscal year prior to the year that drilling commences.

Source: Regional Economic Studies Institute, Towson University

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Because the bill also requires the fee to be set to provide financial assistance to those injured by hydraulic fracturing chemicals, the fee must be set at a greater level, which may begin as early as fiscal 2017, once drilling has commenced and in anticipation of such injuries. As noted, the amount of such financial assistance to be paid each year, if any, is highly uncertain. However, *for illustrative purposes only*, using the estimated administrative expenses and projected number of wells to be drilled, as discussed above, and further assuming \$100,000 in financial assistance is provided from the fund each year based on injury claims, then the fee may need to increase to between about \$5,400 and \$24,300 in fiscal 2017 (based upon the low- and high-extraction scenarios discussed above). DHMH may have greater certainty in setting the fees for fiscal 2017 based on

the actual number of permit applications received in fiscal 2016. It should be noted that, if financial assistance provided by the fund exceeds \$100,000 per year, the fee may need to be significantly higher.

Any increase in special fund revenues from the assessment of penalties established by the bill cannot be reliably estimated but is not anticipated to be significant.

Finally, it should be noted that the bill's disclosure requirements, fees, penalties, and other restrictions may result in a reduction in the number of permit applications for development of the Marcellus Shale than would otherwise occur in the absence of the bill. Thus, general and special fund revenues associated with general economic activity may decrease, potentially beginning in fiscal 2015, to the extent that the bill delays or prevents the development of natural gas resources that would otherwise occur in the absence of the bill.

**Local Fiscal Effect:** Local revenues associated with general economic activity, as well as local severance tax revenues, likely decrease, potentially beginning in fiscal 2015, to the extent that the bill delays or prevents the development of natural gas resources that would otherwise occur in the absence of the bill. It is currently assumed that a permit could be issued in fiscal 2015, and potentially as early as August 1, 2014, on completion of the study required by executive order. However, the bill's disclosure requirements may affect the willingness of some natural gas production companies to operate in Maryland.

**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 delays such development. 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.

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### **Additional Information**

**Prior Introductions:** None.

**Cross File:** None.

**Information Source(s):** Garrett County, Maryland Department of the Environment, Department of Health and Mental Hygiene, Maryland Institute for Applied Environmental Health, Regional Economic Studies Institute, National Conference of State Legislatures, Department of Legislative Services

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## Appendix – High-volume Hydraulic Fracturing in the Marcellus Shale

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The Marcellus Shale formation is a geologic feature that has attracted significant attention from the energy industry for its rich natural gas and liquids resources contained within seven states. In Maryland, the only anticipated areas of gas production are in Garrett and western Allegany counties. Applications for permits to produce natural gas in Maryland using horizontal drilling and high-volume hydraulic fracturing were first filed with the Maryland Department of the Environment (MDE) in 2010. According to MDE, however, all of the permit applications that had been filed have been withdrawn.

### *Concerns Regarding High-volume Hydraulic Fracturing*

As the use of hydraulic fracturing has increased, so has concern about its potential impacts. 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, and in December 2012, EPA released a progress report on its comprehensive study of hydraulic fracturing impacts on water resources; a full draft report is expected to be released for public comment and peer review in 2014. Other states, academic organizations, environmentalists, and the industry are also conducting research into the impacts of hydraulic fracturing on public health, safety, and the environment.

### *Marcellus Shale Safe Drilling Initiative*

Governor Martin O'Malley established the Marcellus Shale Safe Drilling Initiative by executive order in June 2011 to ensure that, if drilling for natural gas from the Marcellus Shale proceeds in Maryland, it is done in a way that protects public health, safety, natural resources, and the environment. The executive order directs MDE and the Department of Natural Resources (DNR) to assemble and consult with an advisory commission. Specifically, the executive order tasks MDE and DNR, in consultation with the advisory commission, with conducting a three-part study and reporting recommendations.

Part I of the study, a report on findings and recommendations regarding sources of revenue and standards of liability for damages caused by gas exploration and production, was released in December 2011. The findings and recommendations of the report led to

the introduction of several bills during the 2012 legislative session; the General Assembly passed only one of the bills, however. Chapter 703 of 2012 (HB 1123) 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.

Part II of the study – a report on best practices – was completed in August 2013 and reflected changes made after consideration of more than 4,000 public comments. This report was based upon work conducted by two experts at the University of Maryland Center for Environmental Science, Appalachian Laboratory. The experts provided MDE and DNR with a suite of recommendations that have been used or studied in other states. The departments considered each recommended best practice and decided, in consultation with the advisory commission, which practices to accept. While the report contained many recommendations, the centerpiece was the use of a Comprehensive Gas Development Plan (CGDP), which a drilling applicant would be required to submit as a prerequisite to an individual well permit. A CGDP would address broad and cumulative issues associated with the completion of numerous wells and the effects that the well construction and resource extraction and transportation would have on a large-scale.

The third and final report required by the executive order is expected by August 1, 2014. This report is expected to address all other issues identified by the executive order and focuses on identifying the potential impact of drilling. Currently, the departments and their contractors are working on completing an economic and fiscal study; a comprehensive risk assessment; a public health study; and monitoring efforts to measure baseline water quality and effects on air and water quality of any future drilling.

The Marcellus Shale Safe Drilling Initiative has been hampered to some extent by a lack of funding. Legislation failed in the 2011 and 2012 sessions that would have provided the estimated funding needed. However, the fiscal 2014 budget included a \$1.5 million fiscal 2013 deficiency appropriation for MDE and DNR to support the research required by the executive order. The general funds are being used to support the stream sampling, economic analysis, public health study, and monitoring efforts. All, or nearly all, of the \$1.5 million has been spent or encumbered by the departments and contractors.

#### *Marcellus Shale Safe Drilling Advisory Commission Legislative Committee*

In September 2012, the advisory commission established a legislative committee to recommend proposals to the advisory commission for consideration prior to the 2013 session. The commission considered 10 topics for potential proposals and ultimately recommended four proposals. Ultimately, two of these legislative proposals (relating to financial assurance requirements and the registration of “land professionals”)

were introduced and passed by the General Assembly. However, the legislative committee did not reconvene (as of December 2013) in preparation for the 2014 session.