



## Virginia Department of Planning and Budget **Economic Impact Analysis**

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**4 VAC 25-150 – Virginia Gas and Oil Regulation**  
**Department of Mines, Minerals and Energy**  
May 20, 2015

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### **Summary of the Proposed Amendments to Regulation**

The Department of Mines, Minerals and Energy proposes to 1) require disclosure of all ingredients anticipated to be used in hydraulic fracturing operations at the application stage as well as ingredients actually used at the well completion stage; 2) require operators to submit a groundwater sampling and a monitoring plan at the application stage and an emergency response plan; require groundwater sampling before and after well construction as well as follow-up testing if needed; and expand the required groundwater sampling area; 3) incorporate industry best practices with respect to the use of centralizers, standards for casing, and pressure testing requirements; 4) require a pre-application meeting for operators wishing to drill for gas or oil in the Tidewater area; and 5) require certification from operators that the proposed operation complies with local land use ordinances.

### **Result of Analysis**

The benefits likely exceed the costs for all proposed changes.

### **Estimated Economic Impact**

These regulations establish rules for the gas and oil industry in Virginia. Currently, all drilling activity in the Commonwealth occurs in seven counties in far Southwest Virginia. Approximately 85,000 acres of land have been leased for potential future drilling activity in five counties in Tidewater area. However, DMME has not yet received any applications for a permit in this area. There are approximately 8,000 existing wells and approximately 150 applications are received for new wells each year. Operators pump approximately 300 - 400 thousand gallons of water with about 1% chemical content into an average size well.

DMME proposes to update permit application and well completion report requirements. The proposed changes will require disclosure of all ingredients anticipated to be used in hydraulic fracturing operations at the application stage and disclosure of ingredients actually used in fracturing operations when the well is completed to DMME and on FracFocus.<sup>1</sup>

FracFocus is available to oil and gas operators who voluntarily disclose the chemicals they use and to those who are required to disclose such information. Approximately 20 states already require disclosure on FracFocus. Some states require full disclosure including ingredients in the mix, their proportions, trade secrets, etc. while some others require only partial disclosure. Since disclosure of trade secrets may result in an operator losing its competitive advantage, DMME proposes that trade secrets not be required on FracFocus, but be submitted to the agency with the well application and the completion reports. However, in case of an emergency, DMME will have the authority to disclose the trade secret information to emergency responders.

The proposed disclosure requirements will help improve transparency in the hydraulic fracking operations which has been used safely in Virginia since the 1960s and address concerns associated with environmental effects. However, they will also safeguard trade secrets and allow operators to maintain the competitive advantage they may have. While the proposed disclosure requirements may introduce some additional reporting costs on operators, DMME indicates that some of the oil and gas operators already use FracFocus voluntarily and that it is a free service. Thus, additional reporting costs on regulated operators are expected to be small.

The proposed changes will also require operators to submit a groundwater sampling and monitoring plan at the application stage. DMME will also require submission of an emergency response plan. Additionally, groundwater sampling before and after well construction as well as follow-up testing if the sampling demonstrates exceedances of applicable standards will be required. While these requirements are not currently in the regulations explicitly, DMME indicates that all providers already comply with these requirements. However, DMME proposes to expand the sampling area which is used to establish the groundwater quality before and after drilling a well from 500 feet radius to one-quarter mile radius. DMME believes that the cost of groundwater sampling for the currently required area is in the range of \$1,000 to \$2,000 and that

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<sup>1</sup> FracFocus is a chemical disclosure registry maintained by the Ground Water Protection Council and the Interstate Oil & Gas Compact Commission. The registry offers its disclosure services free of charge to oil and natural gas industry.

the increase in the cost of sampling due to a larger area will be less than double the current costs. In addition, sampling from a larger area will allow more accurate comparison of before and after groundwater quality reducing the operators' liability somewhat compared to their liability that may result from statistically less reliable comparison.

The proposed changes will also amend the regulation to reflect industry best practices with respect to use of centralizers, standards for casing, and pressure testing requirements that enhance well integrity. For example these changes include a requirement for using steel casings in the drilling process to be sufficiently strong to protect the surrounding formation; and a requirement to use centralizers in the water protection string of casing to make sure the casing is centered in the hole while the well is drilled. DMME states that all operators already maintain high standards to ensure well integrity and are in compliance with the proposed changes. Thus, no additional costs are expected from this change other than clarification of the well integrity standards in the regulation.

The proposed changes also require a pre-application meeting jointly conducted by DMME and the Department of Environmental Quality (DEQ) for operators wishing to drill for gas or oil in Tidewater, Virginia. This area of the Commonwealth requires special consideration due to its potential impact on the Chesapeake Bay's sensitive environmental balance and the lack of information on the potential impact of drilling on this balance since any gas or oil drilling has yet to be performed in this area. The pre-application meeting will give a chance to DMME and DEQ to address the requirements of the environmental impact assessment required pursuant to Code of Virginia Section 62.1-195.1 and 9 VAC 15-20; and help prevent any potential unintended consequences.

Finally, the proposed changes will require certification that the proposed operation complies with local land use ordinances to ensure compliance with them.

In summary, the proposed changes are expected to introduce small administrative costs due to the proposed disclosure requirements, additional reports and plans, additional meetings, and less than two thousand dollars for groundwater testing of an enlarged area. Additional administrative costs are anticipated to be minimal as the proposed application and reporting requirements are contained within the existing electronic permitting and reporting systems. DMME expects to incur negligible, one-time costs to update its electronic permitting system to

reflect the changes in the proposed regulation. On the other hand, the main benefits of the proposed changes include enhancement of the groundwater protection as well as of the public health and safety.

### **Businesses and Entities Affected**

There are about 20 operators and approximately 200 contractors and subcontractors in the Commonwealth's gas and oil industry with a heavy focus on natural gas. Majority of the drilling is conducted by a few very large operators. Remaining operators, all of the contractors and subcontractors are believed to be small businesses.

### **Localities Particularly Affected**

The proposed changes particularly affect Lee, Wise, Dickenson, Buchanan, Scott, Russell, and Tazewell counties as all of the current drilling activity occurs in these counties. The proposed changes may also affect Essex, Caroline, King and Queen, Westmoreland, and King George counties as gas and oil drilling activity may start there in the future.

### **Projected Impact on Employment**

The proposed amendments are anticipated to increase the demand for labor from operators and DMME in terms of filing of additional reports, plans, attending meetings, but are unlikely to significantly affect employment.

### **Effects on the Use and Value of Private Property**

The proposed amendments are unlikely to significantly affect the use and value of private property.

### **Small Businesses: Costs and Other Effects**

The proposed amendments are anticipated to introduce additional small administrative and sampling costs for the gas and oil operators. Though there are only a few large operators, they perform the majority of the drilling in the Commonwealth. The costs and other effects on small business operators are the same as discussed above.

### **Small Businesses: Alternative Method that Minimizes Adverse Impact**

There is no known alternative method that would have a smaller impact and accomplish the same goals as the proposed changes.

## Real Estate Development Costs

The proposed amendments are unlikely to affect real estate development costs.

## Legal Mandate

**General:** The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with § 2.2-4007.04 of the Code of Virginia and Executive Order Number 17 (2014). Section 2.2-4007.04 requires that such economic impact analyses determine the public benefits and costs of the proposed amendments. Further the report should include but not be limited to:

- the projected number of businesses or other entities to whom the proposed regulation would apply,
- the identity of any localities and types of businesses or other entities particularly affected,
- the projected number of persons and employment positions to be affected,
- the projected costs to affected businesses or entities to implement or comply with the regulation, and
- the impact on the use and value of private property.

**Small Businesses:** If the proposed regulation will have an adverse effect on small businesses, § 2.2-4007.04 requires that such economic impact analyses include:

- an identification and estimate of the number of small businesses subject to the proposed regulation,
- the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the proposed regulation, including the type of professional skills necessary for preparing required reports and other documents,
- a statement of the probable effect of the proposed regulation on affected small businesses, and
- a description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

Additionally, pursuant to § 2.2-4007.1, if there is a finding that a proposed regulation may have an adverse impact on small business, the Joint Commission on Administrative Rules (JCAR) is notified at the time the proposed regulation is submitted to the *Virginia Register of Regulations* for publication. This analysis shall represent DPB's best estimate for the purposes of public review and comment on the proposed regulation.

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