Virginia’s Oil and Gas Program – Legal and Regulatory Framework

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W&M ELPR Spring Symposium
Williamsburg, VA – March 28, 2015
ROADMAP

- Introduction to DMME
- Brief history of drilling in Virginia
- Brief history of drilling in Taylorsville Basin
- Overview of program requirements
- Overview of additional requirements applicable to Taylorsville Basin
- Regulatory Update
ORGANIZATIONAL CHART

DMME

DA = Administration
DE = Energy
DGMR = Geology
DGO = Gas & Oil
DM = Mine Safety
DMM = Mineral Mining
DMLR = Mined Land Reclamation
DMME’s MISSION

We enhance the development and conservation of energy and mineral resources in a safe and environmentally sound manner to support a more productive economy.
DMME STRATEGIC PLAN

- **Goal 1:**
  - Provide for safe and environmentally sound mineral and fossil fuel extraction.

- **Goal 2:**
  - Encourage economic development through our customers’ wise management of Virginia’s resources.

- **Goal 3:**
  - Enable DMME personnel to perform at their full potential.
Virginia’s Energy Resources
DMME PERFORMANCE MEASURES

Percentage of sites with no adverse off-site environmental damage
INSPECTION DATA

TOTAL INSPECTIONS

[Bar and Line Graph showing the number of inspections and total active permits across various quarters]

Virginia Department of Mines Minerals and Energy
WHAT IS HYDRAULIC FRACTURING?

- Involves the use of pressurized liquids or gases such as nitrogen to stimulate or fracture rock formations to release the gas or oil.

- The composition and volume of fluids used depend on many geological factors.
WHAT IS HYDRAULIC FRACTURING?

- Sand is often pumped in with the fluids to help prop the fractures open.

- Fracturing, along with horizontal drilling, has made previously inaccessible natural gas and petroleum resources producible in economic quantities.

- The application of these technologies has greatly expanded U.S. oil and natural gas production over the past ten years.
FRACKING IN VIRGINIA

- Technique has been utilized in the Commonwealth since the 1960s.
- Over 8,000 wells have been fracked in Southwest Virginia.
- There have been no documented instances of surface or groundwater degradation from fracking in Virginia.
Hydraulically fracked wells in Virginia typically require 0–300,000 gallons of water.

Increasingly, operators are utilizing nitrogen–based foam to frac wells.

By contrast, fracked wells in the Marcellus shale can use 4–5 million gallons of water.
USGS assigned 1.06 trillion cubic feet of gas to the Taylorsville Basin.

That’s about 2 ½ times Virginia’s total annual consumption of natural gas.

For comparison, the USGS assigned 410 Tcf to the Marcellus Shale in Pennsylvania, New York, and West Virginia.
Typical Casing Design

Rock Formations containing natural gas are several thousand feet deep. Multiple casings are cemented to surface to protect water resources.
PROGRAM REQUIREMENTS

All operators must comply with:
- The Virginia Gas and Oil Act of 1990
- Virginia Gas and Oil Regulation
- Virginia Gas and Oil Board Regulations
- State Water Control Law
- Virginia Pollution Discharge Elimination System Regulations
- Additional requirements for the Tidewater Region
PERMIT REQUIREMENTS

- Applicants are required to notify parties who may be directly affected by the proposed operation, including surface and mineral owners.

- These parties have the right to object to permits on specific grounds that are outlined in the law.
PERMIT REQUIREMENTS

- Applicants also must inform localities and publish notices in at least one newspaper of general circulation which is published in the locality where the well is proposed.

- Applications must contain operations plans that detail necessary construction, erosion and sediment control, drilling and stimulation plans, etc.
The Gas and Oil Act allows operators access to private water wells within 750 feet of a gas well operation for sampling purposes.

The law requires operators to replace water supplies if water wells are contaminated or their supply is interrupted by a gas well operation within 750 feet.
Found in 62.1–195.1 of the Code of Virginia

- Prohibits drilling in the Chesapeake Bay or its tributaries.
- This prohibition also extends to the greater distance of:
  - Bay Resource Protection Areas
  - 500 feet from the shoreline of the waters of the Bay.
Before drilling can occur, an environmental impact assessment must be submitted to DMME and reviewed by DEQ.

EIA must be submitted to all appropriate state agencies for their review.

DMME must consider DEQ’s findings before a permit can be issued.
ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- For directional drilling, the operator must obtain the permission of all affected surface owners.
- Casing is set and pressure grouted from the surface to a point at least 2500 feet below the surface or 300 feet below the deepest known ground water, whichever is deeper.
- Multiple blowout preventers must be employed.
REGULATORY FRAMEWORK

- 4 VAC 25–150
- Sets out requirements for:
  - Permit applications
  - Hearing process for objections
  - Technical requirements
  - Reporting requirements
  - Enforcement procedures
In the fall of 2013, DMME initiated a regulatory action to review its requirements for drilling.

- Chemical disclosure requirements
- Review of current industry best practices
- Review to determine if additional requirements are necessary for different regions of the Commonwealth
DMME utilized a Regulatory Advisory Panel (RAP) to assist in reviewing regulations.

The RAP was composed of a wide variety of stakeholders.

RAP meetings were open to the public.

DMME maintains an e-mail list and a dedicated page on its website.
Every recommendation from the RAP has been incorporated into the draft proposed regulations.

At least one public hearing will be held after proposed regulations are published in the Virginia Register of Regulations.
Thank You!

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