

Virginia's Oil and Gas Program

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ROADMAP

- ▶ Introduction to DMME
- ▶ Brief history of fracking in Virginia
- ▶ Overview of program requirements
- ▶ Overview of additional requirements applicable to Tidewater Virginia
- ▶ Overview of regulatory process



AN INTRODUCTION TO DMME

- ▶ An executive branch agency within the Secretariat of Commerce and Trade
- ▶ Formed in 1985 as the result of a government reorganization
- ▶ Approximately 200 full time employees located in four offices across the Commonwealth



THE VIRGINIA GAS AND OIL ACT

- ▶ To foster, encourage and promote the safe and efficient exploration for and development, production and conservation of Virginia's gas and oil resources;
- ▶ To protect Virginia's citizens and environment from public safety and environmental risks associated with the development and production of gas or oil;

THE VIRGINIA GAS AND OIL ACT

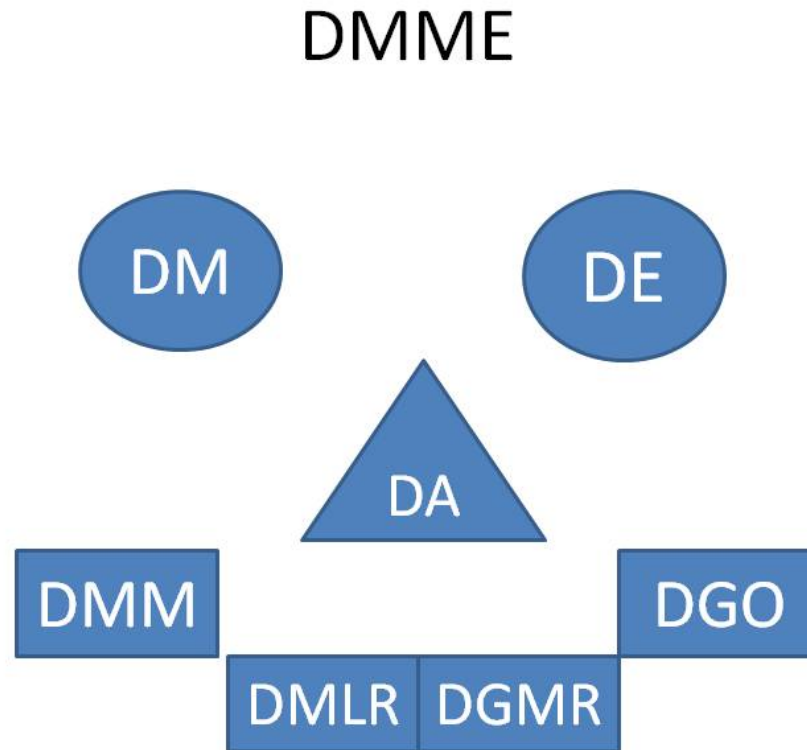
- ▶ To recognize that use of the surface for gas or oil development shall be only that which is reasonably necessary to obtain the gas or oil.

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.



ORGANIZATIONAL CHART



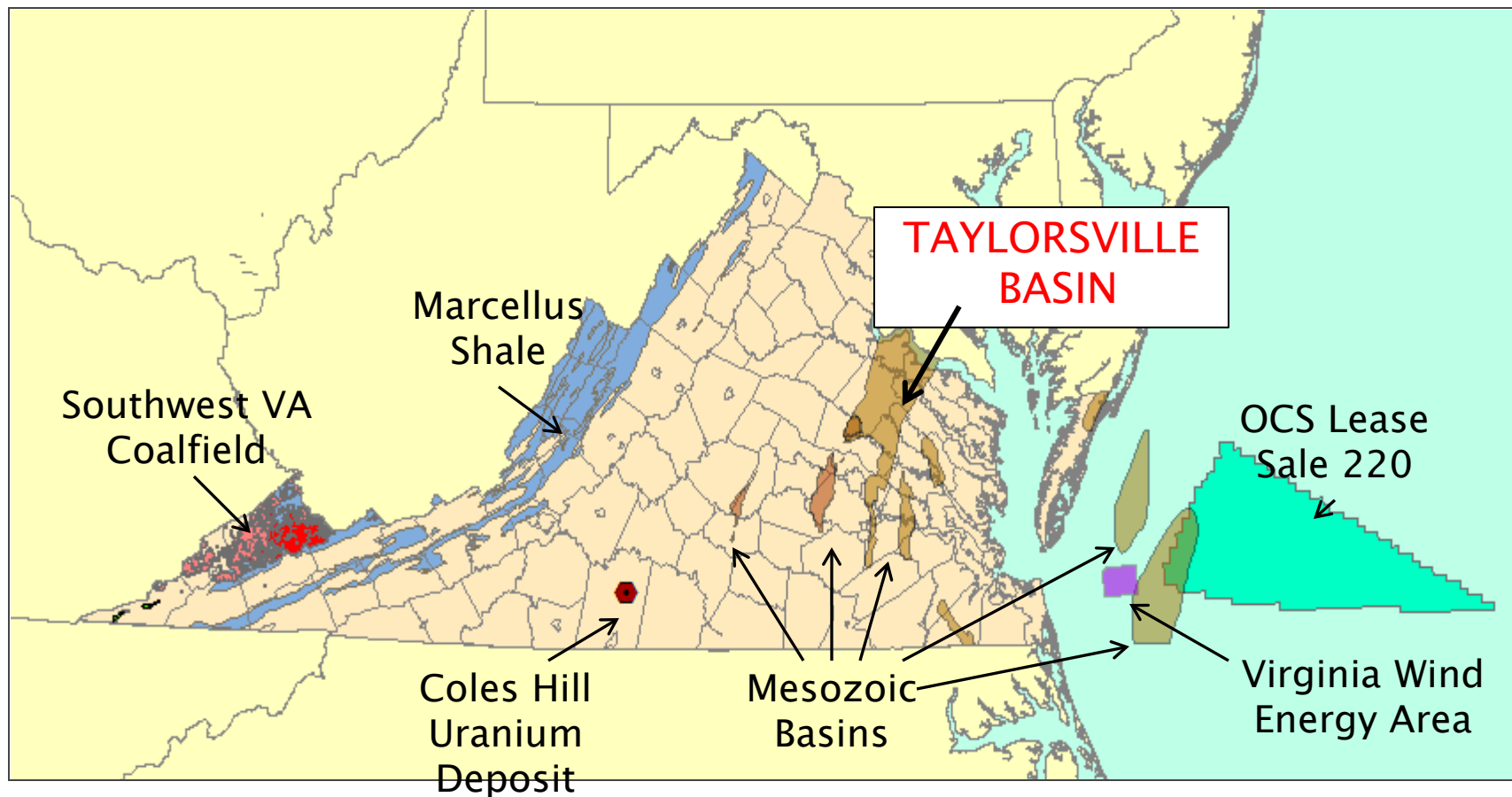
DA = Administration
DE = Energy
DGMR = Geology
DGO = Gas & Oil
DM = Mine Safety
DMM = Mineral Mining
DMLR = Mined Land
Reclamation

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.

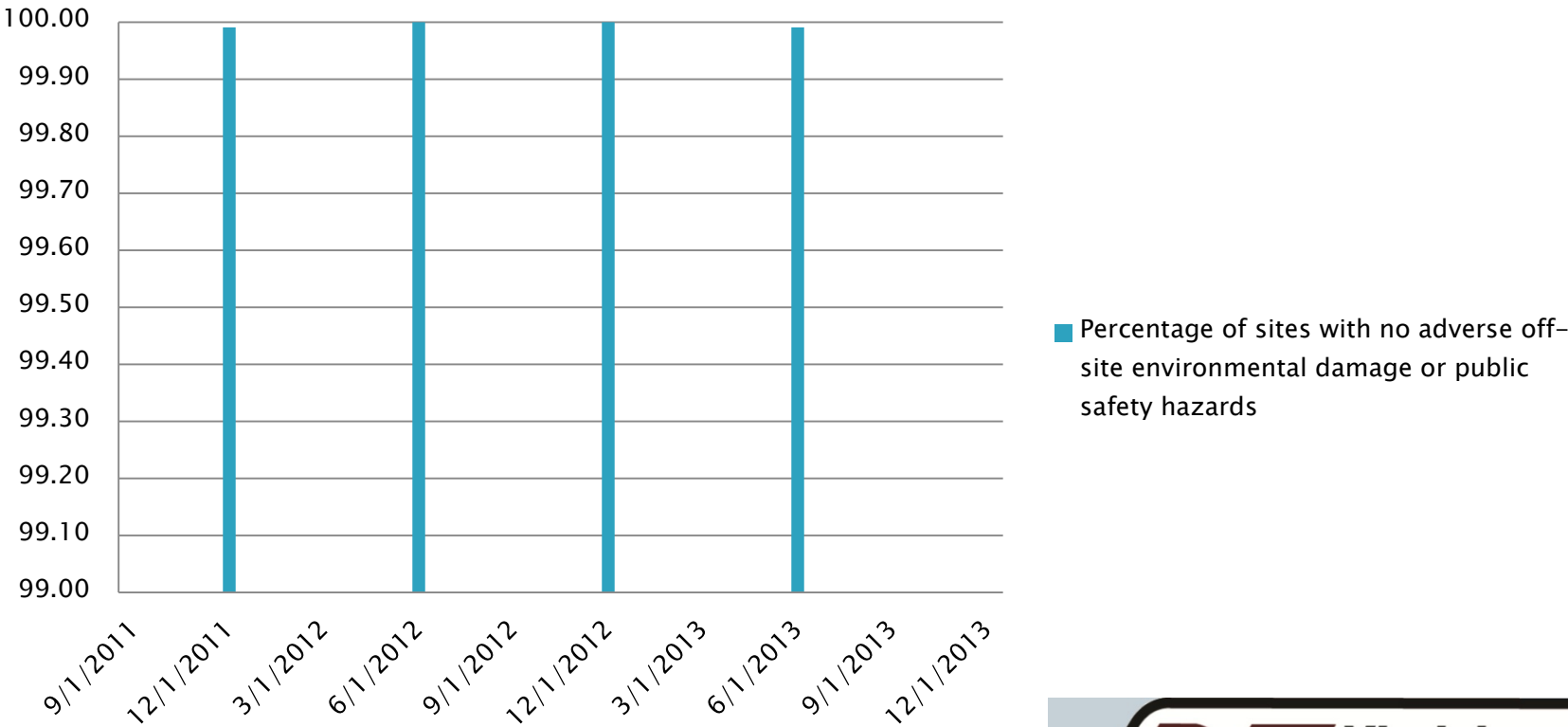


Virginia's Energy Resources



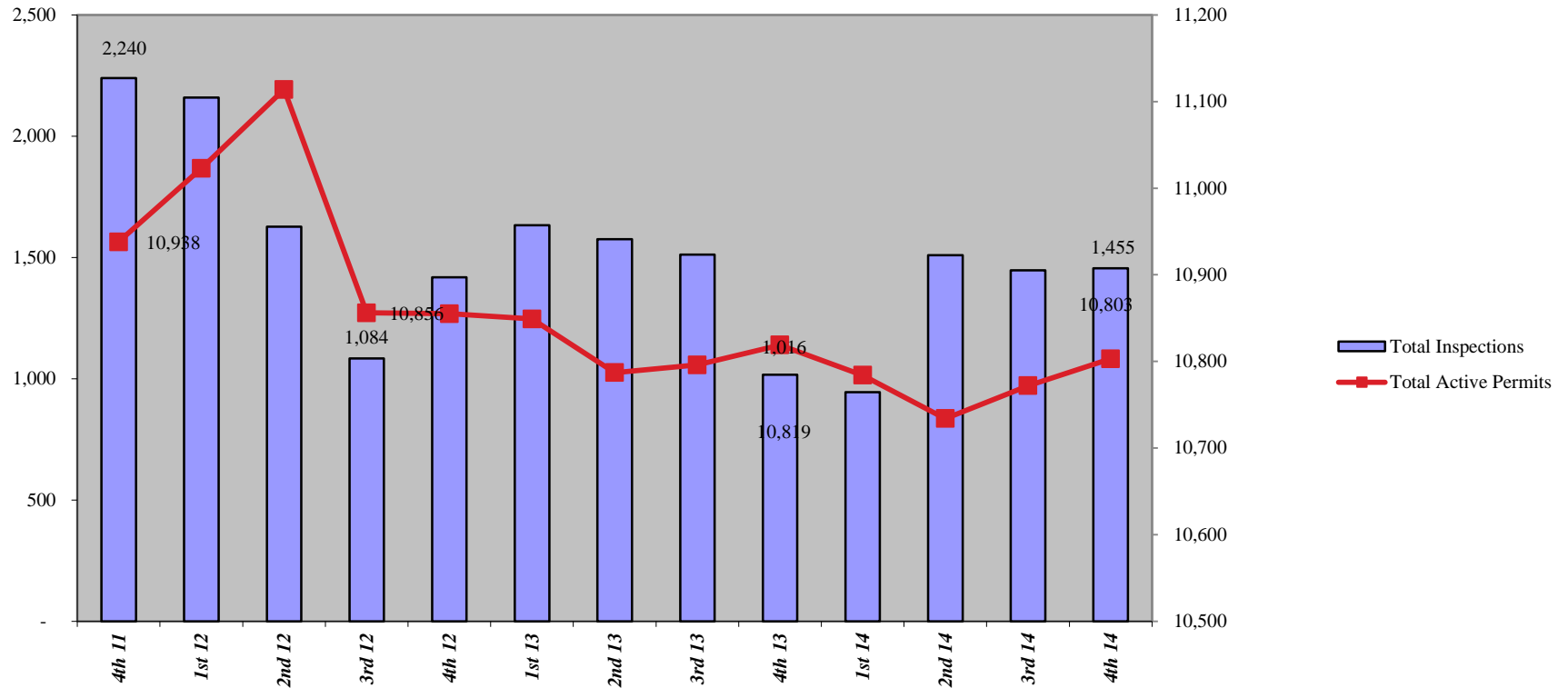
DMME PERFORMANCE MEASURES

Percentage of sites with no adverse off-site environmental damage or public safety hazards



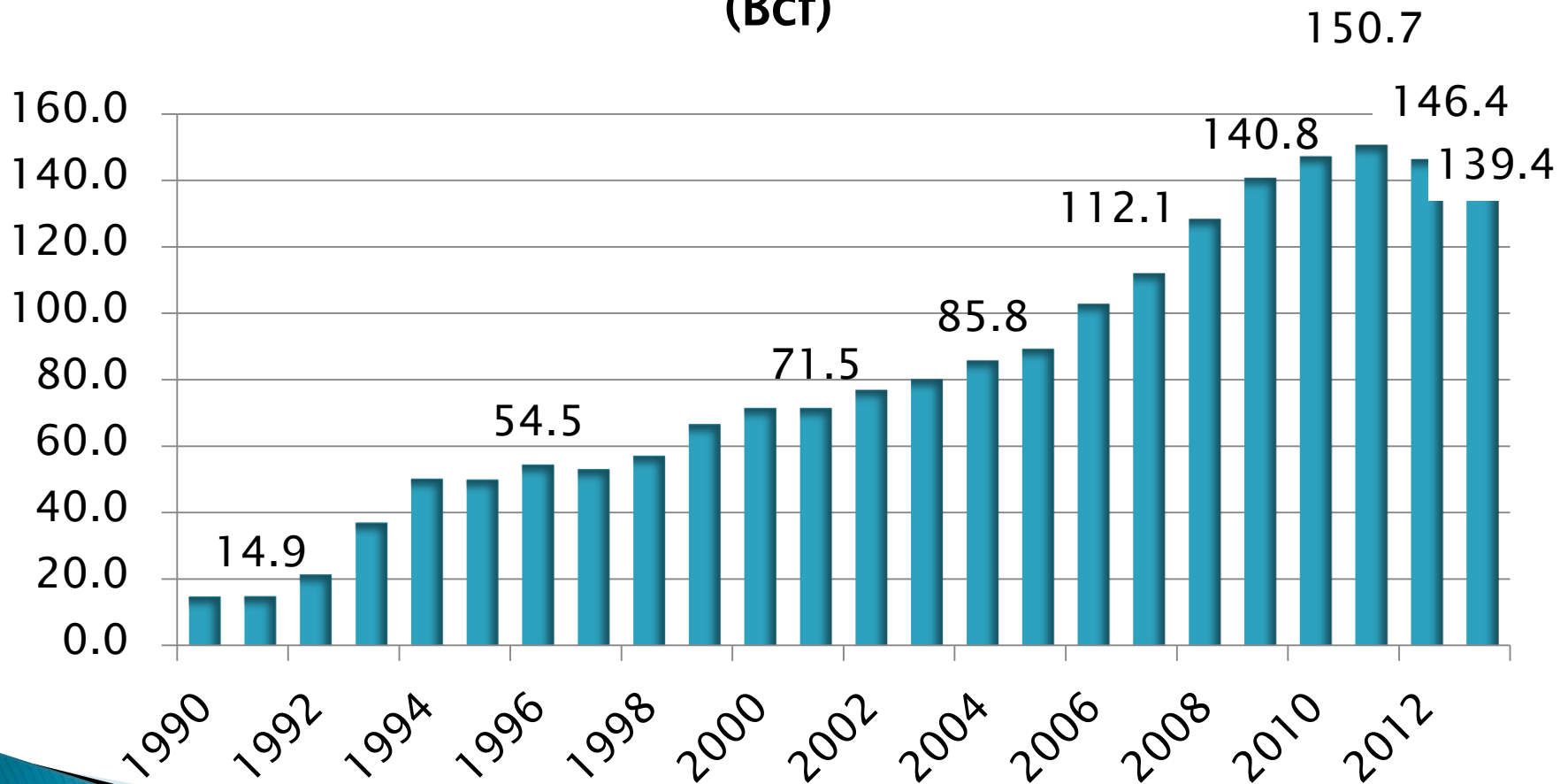
INSPECTION DATA

TOTAL INSPECTIONS



2013 Gas Production in Virginia

Annual Gas Production Trend (Bcf)



DIVISION OF GAS AND OIL

- ▶ The following information can be found on the DGO page of the DMME website:
 - Listing of current laws and regulations
 - Pending Application Listings
 - Permitted Applications
 - Drilling Reports
 - Completion Reports



DIVISION OF GAS AND OIL

- ▶ The following information can be found on the DGO page of the DMME website:
 - Production Statistics
 - Maps of wells
 - Final Orders of the Gas and Oil Board
 - Transcripts of Board Meetings
 - Royalty information



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.

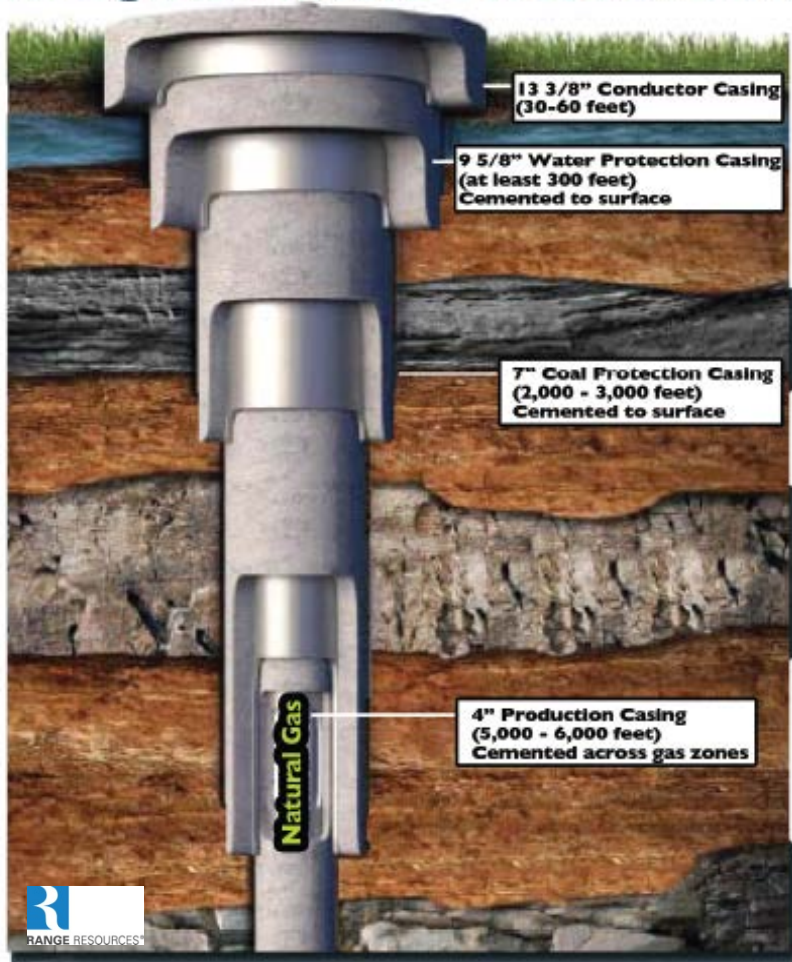


FRACKING IN VIRGINIA

- ▶ Hydraulically fracked wells in Virginia typically require 0–300,000 gallons of water.
- ▶ Increasingly, operators are utilizing nitrogen-based foam to frack wells.
- ▶ By contrast, fracked wells in the Marcellus shale can use 4–5 million gallons of water.

Typical Casing Design

Casing Schematic - Not to Scale



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.

PROGRAM REQUIREMENTS

- ▶ 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.

ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ 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 or any of its tributaries.



ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ Before drilling can occur, an environmental impact assessment (EIA) must be submitted to DMME and reviewed by DEQ.
- ▶ The EIA must be included as part of the permit application.
- ▶ EIA must be submitted to all appropriate state agencies for their review.



ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ DMME must consider DEQ's findings before a permit can be issued.
- ▶ DMME will collaborate with DEQ to ensure that if a permit is issued, its conditions accurately reflect the results of DEQ's review of the EIA.



ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ Numerous additional technical requirements contained in the Code.
- ▶ Additional requirements also exist regarding oil wells.

REGULATORY FRAMEWORK

- ▶ 4 VAC 25-150
- ▶ Sets out requirements for:
 - Permit applications
 - Hearing process for objections
 - Technical requirements
 - Reporting requirements
 - Enforcement procedures



NOIRA STAGE

- ▶ Last fall, DMME initiated a regulatory action to review its requirements for drilling.
 - Chemical disclosure requirements
 - Review of selected industry best practices
 - Review to determine if additional requirements are necessary for different regions of the Commonwealth



NOIRA STAGE

- ▶ The Notice of Intended Regulatory Action was published on January 13, 2014.
- ▶ DMME received over 200 comments during the 30 day public comment period.
- ▶ These comments supported disclosure of ingredients used in fracturing process.



PUBLIC/STAKEHOLDER INVOLVEMENT

- ▶ DMME formed a Regulatory Advisory Panel (RAP) to offer recommendations in selected areas over the course of five meetings.
- ▶ Panel meetings have been open to the public.
- ▶ DMME maintains an e-mail distribution list and a page on its website to keep the public informed.



PANEL'S PROGRESS

- ▶ Five meetings were held across the Commonwealth between June and September.
- ▶ Panel reached consensus and offered recommendations on several issues.

NEXT STEPS

- ▶ As the regulatory agency, DMME makes the final determination on panel recommendations.
- ▶ DMME will draft proposed regulations, incorporating recommendations as appropriate.
- ▶ DMME will reconvene RAP for one meeting to review draft regulations before they are formally adopted.



Thank You!

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