

Virginia's Oil and Gas Program

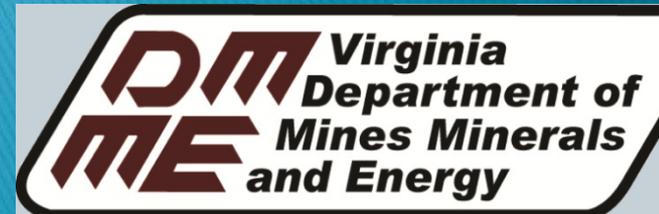
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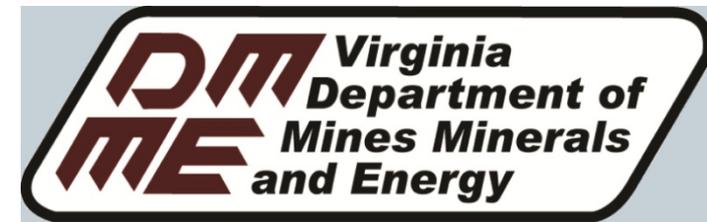
Regulatory Advisory Panel – Meeting #5

Dahlgren, VA – September 24, 2014



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

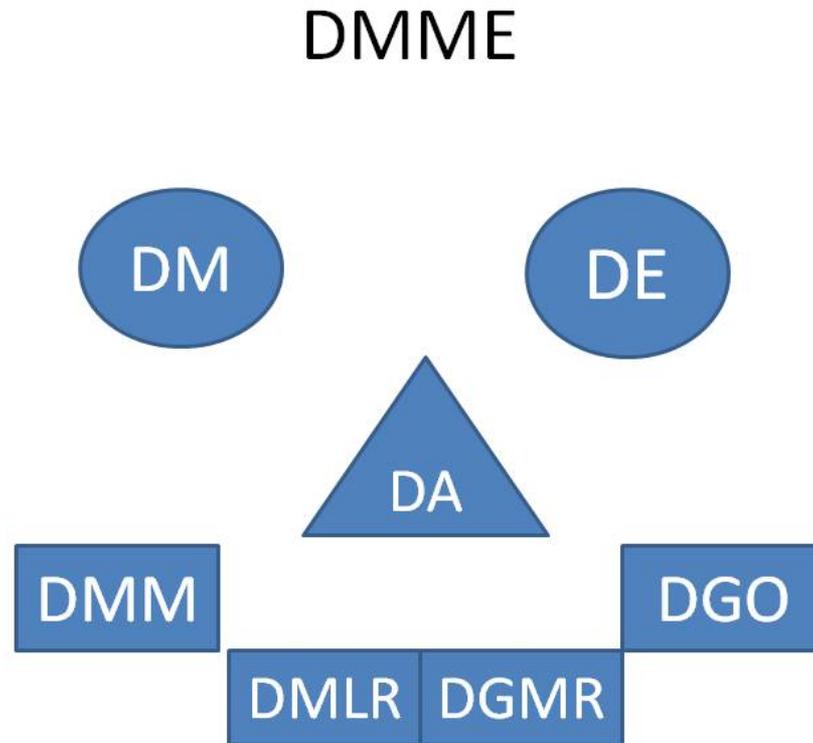
- ▶ To recognize that use of the surface for gas or oil development shall be only that which is reasonably necessary to obtain the gas or oil.

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

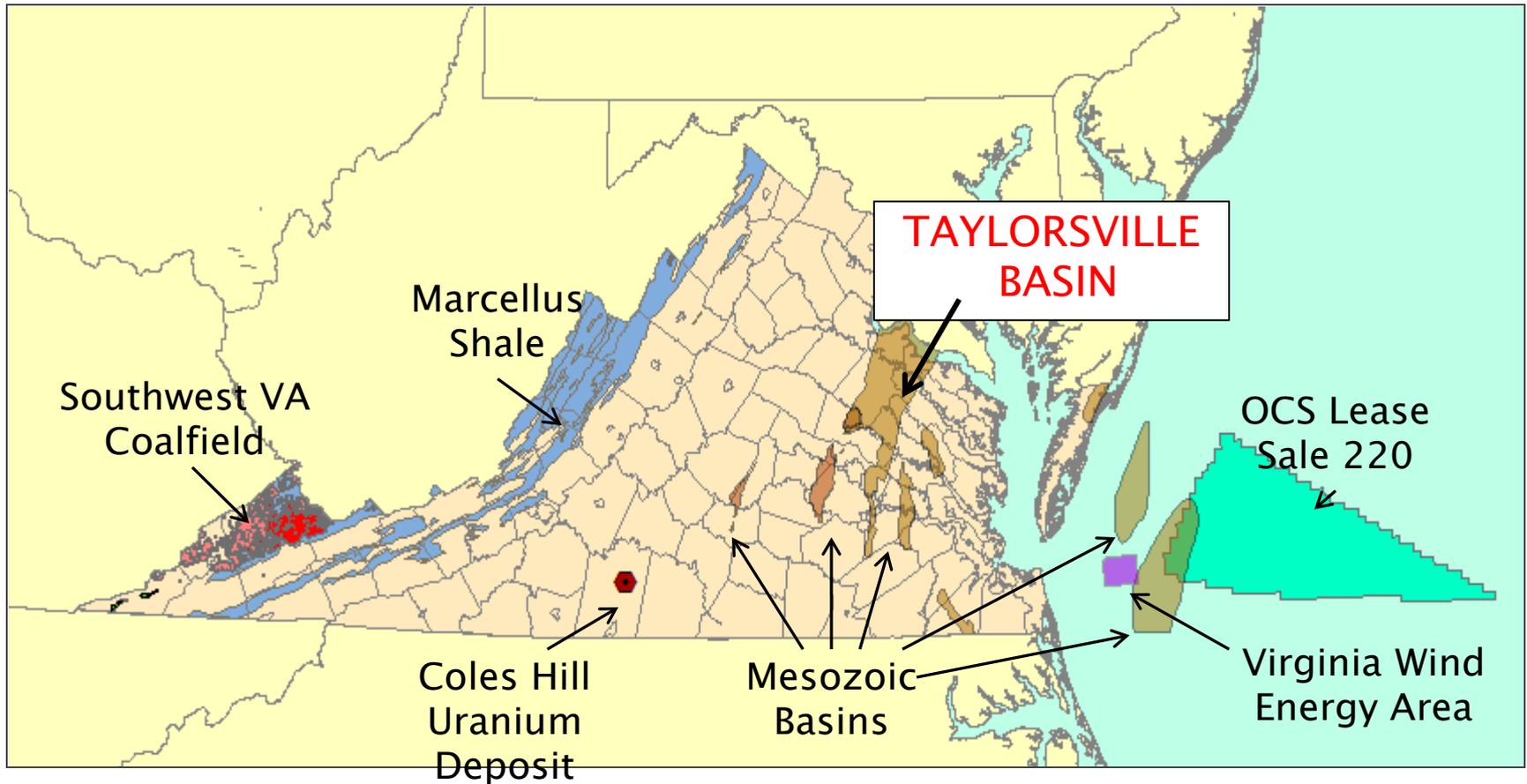


DMME STRATEGIC PLAN

- ▶ 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.

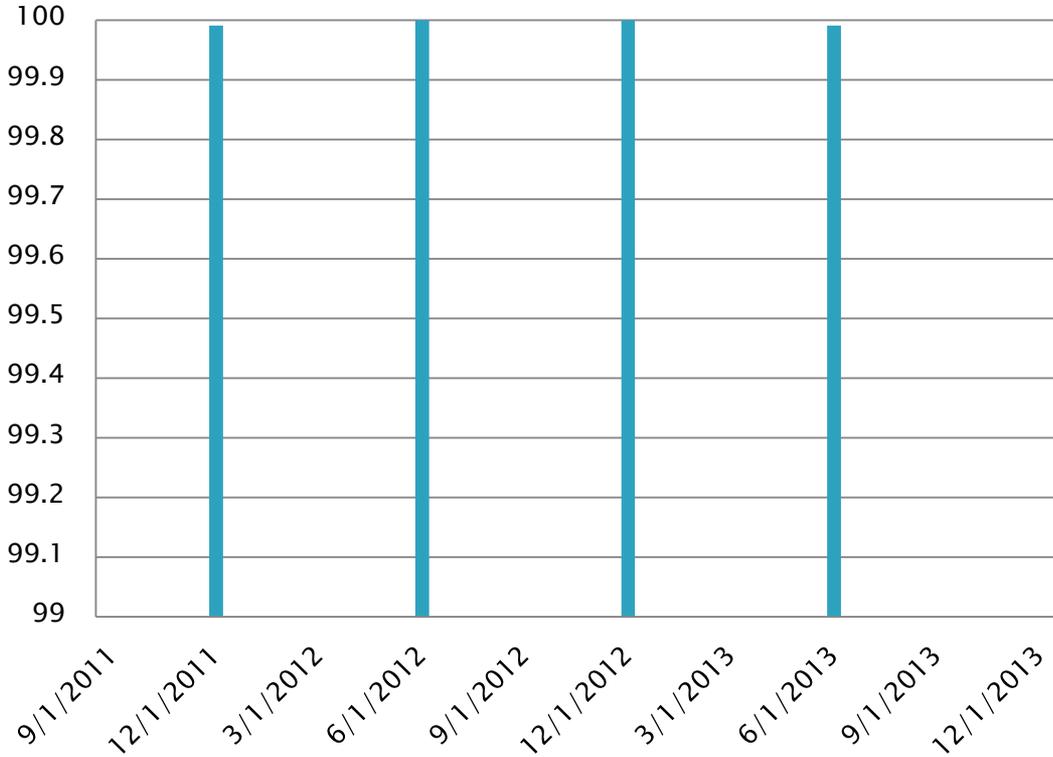


Virginia's Energy Resources



DMME PERFORMANCE MEASURES

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

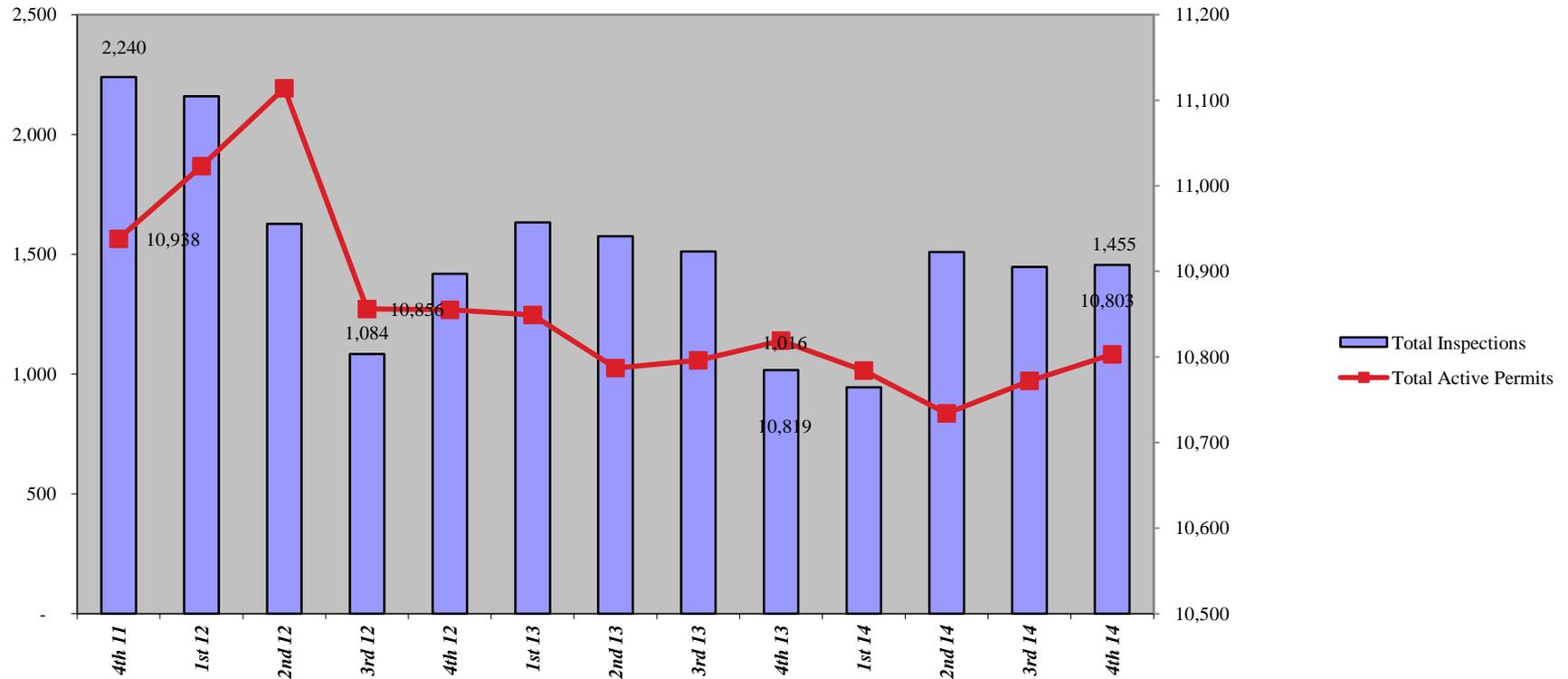


■ Percentage of sites with no adverse off-site environmental damage or public safety hazards



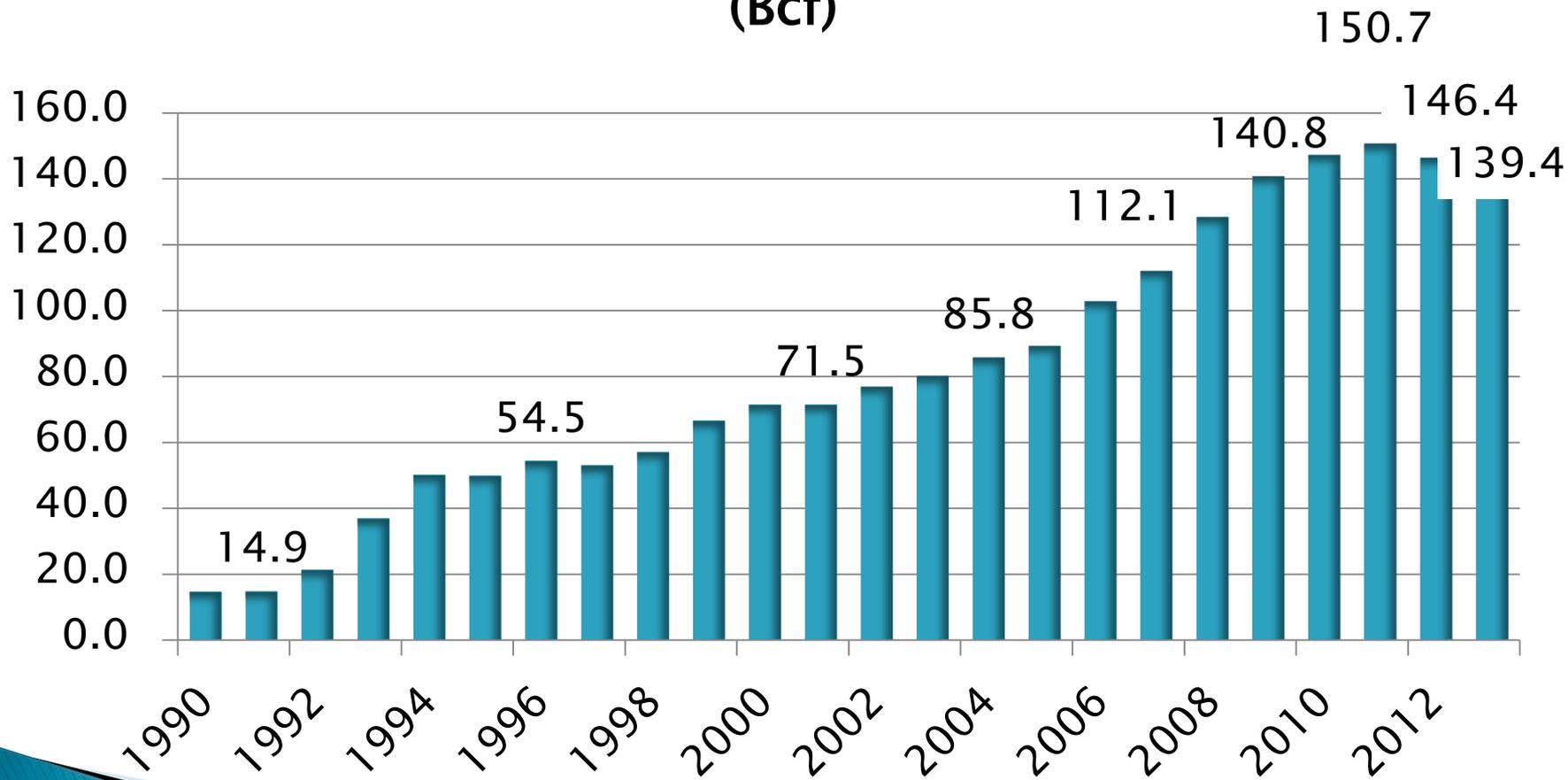
INSPECTION DATA

TOTAL INSPECTIONS



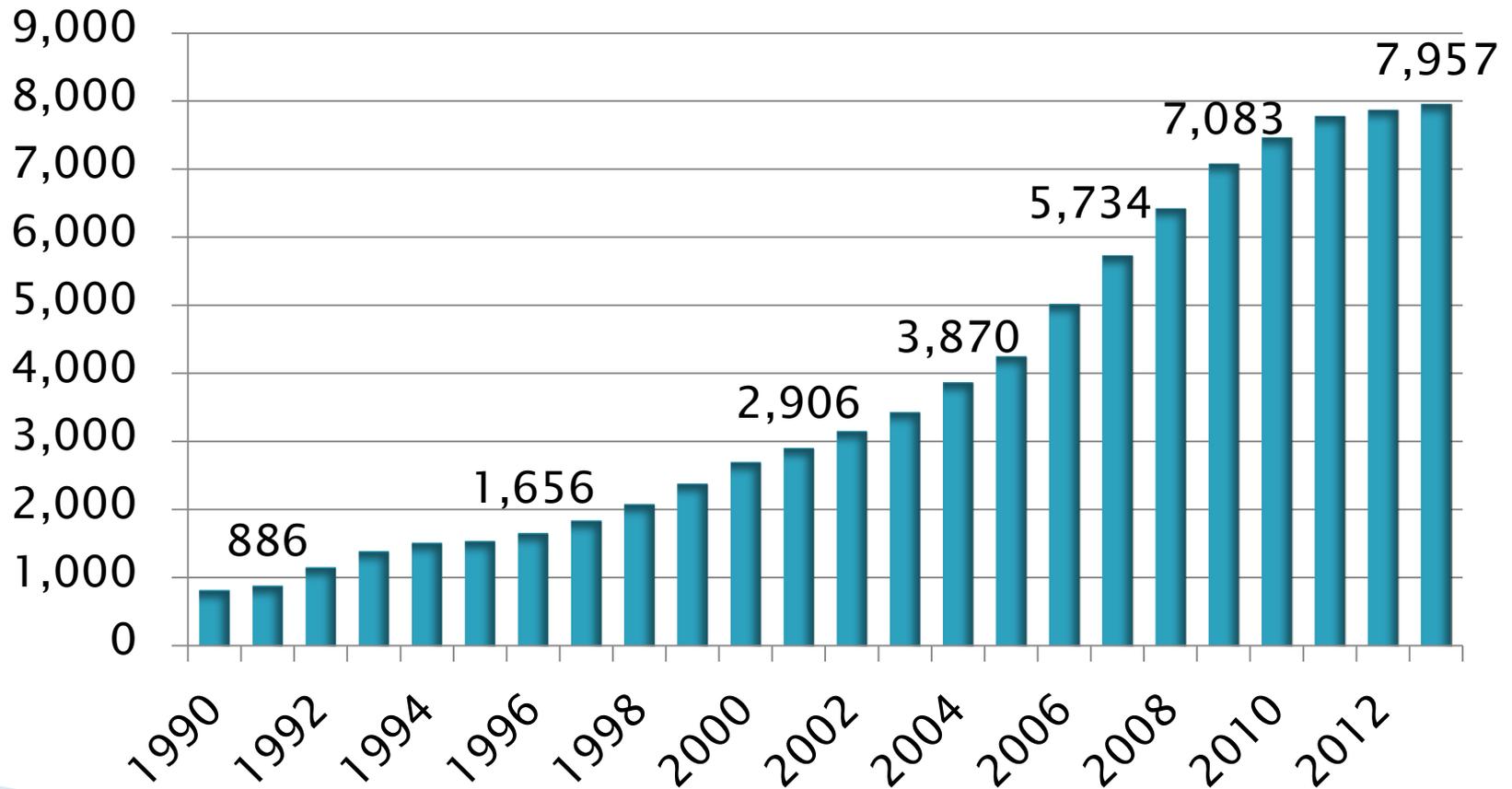
2013 Gas Production in Virginia

Annual Gas Production Trend (Bcf)



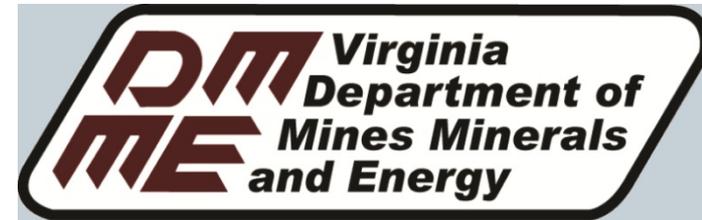
2013 Producing Gas Wells in Virginia

Producing Wells



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.

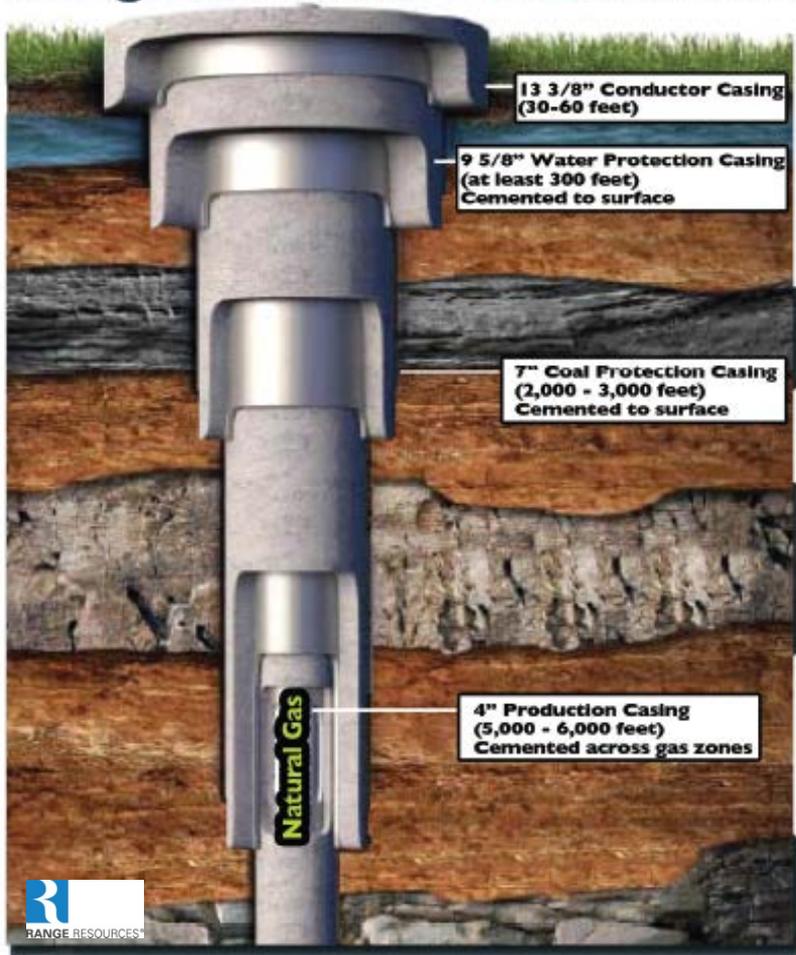


FRACKING IN VIRGINIA

- ▶ 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

- ▶ The EIA shall include the probabilities and consequences of accidental discharge of oil and gas on:
 - Wildlife
 - Air and water quality
 - Land and water resources

ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ The EIA shall also include:
 - Recommendations for minimizing any adverse economic, fiscal, or environmental impacts
 - An examination of the secondary environmental effects of induced economic development due to the drilling and production

ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ For directional drilling, the operator must obtain the permission of the owners of all lands to be directionally drilled into
- ▶ The applicant must file an oil discharge contingency plan and proof of financial responsibility to implement the plan
- ▶ These plans must be approved by the State Water Control Board.



ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ The drilling site must be stabilized with material which result in minimal amounts of runoff.
- ▶ Persons certified in blowout prevention are present at all times during drilling
- ▶ 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.

ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ Freshwater-based drilling mud must be used during drilling
- ▶ There can be no onsite disposal of drilling muds or any produced fluids
- ▶ Multiple blowout preventers must be employed.



ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ Before an oil well can be placed into production:
 - Exploration must take place.
 - DMME must find that production is likely and imminent.
 - DMME must then notify the Secretaries of Commerce and Trade and Natural Resources.
 - The Secretaries shall produce a report to the Governor and General Assembly.



ADDITIONAL REQUIREMENTS FOR DRILLING IN TIDEWATER REGION

- ▶ Before an oil well can be placed into production:
 - The Governor may recommend legislative and regulatory changes.
 - The General Assembly may accept those legislative changes or implement its own.
 - DMME cannot issue a permit for an oil production well until all of the above steps are completed.



REGULATORY FRAMEWORK

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



THE REGULATORY PROCESS

- ▶ A typical regulatory action in Virginia consists of three stages:
 - 1. Notice of Intended Regulatory Action (NOIRA)
 - 2. Proposed Stage
 - 3. Final Stage
- ▶ 180 day requirement of Executive Order 17



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.



PETITION FOR RULEMAKING

- ▶ On January 27, 2014, a Petition from the Virginia Oil and Gas Association was published in the Virginia Register of Regulations.
- ▶ The petition requested DMME require all operators to disclose ingredients used in fracking by participating in the FracFocus website.



PUBLIC/STAKEHOLDER INVOLVEMENT

- ▶ DMME formed a Regulatory Advisory Panel (RAP) to offer recommendations in selected areas over the course of a handful of 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

- ▶ Two meetings held in Richmond on June 4 and July 2.
- ▶ Two meetings held in Southwest Virginia on July 23 and August 27.
- ▶ Meetings focused on chemical disclosure and selected best management practices.
- ▶ Panel reached consensus and offered recommendations on several issues.



PANEL'S PROGRESS

▶ Recommendations:

- Disclosure of ingredients should be required.
- Operators should be required to use FracFocus.
- Virginia should maintain a separate registry.



PANEL'S PROGRESS

▶ Recommendations:

- Operators should provide a list of anticipated ingredients before fracking takes place.
- Operators should submit all information related to fracking to DMME and DMME should determine what information should be protected as a trade secret.



PANEL'S PROGRESS

▶ Recommendations:

- The radius for groundwater sampling should be extended to $\frac{1}{4}$ mile.
- One monitoring test should be required within 6–12 months after well completion, with additional enforcement if limits are exceeded.
- Pressure testing of production casing should be required.



PANEL'S PROGRESS

▶ Recommendations:

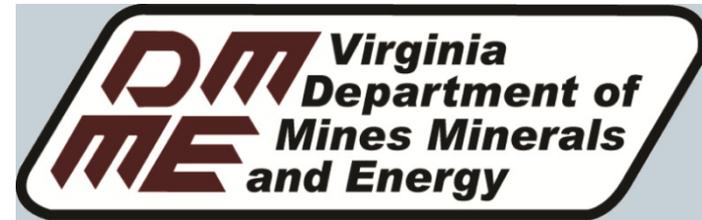
- Pits should be fenced.
- Emergency Response Plans should be submitted as part of permit application.



NEXT STEPS

- ▶ After RAP meetings conclude, DMME will review all recommendations.

- ▶ As the regulatory agency, DMME makes the final determination on panel recommendations.



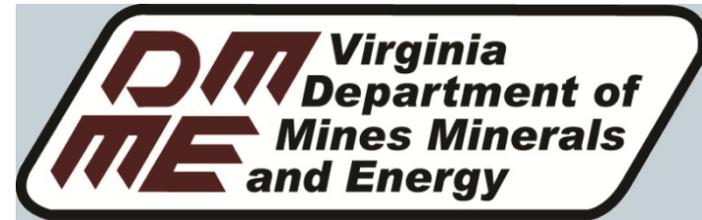
NEXT STEPS

- ▶ 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.



PROPOSED STAGE

- ▶ Once proposed regulations are drafted and adopted by the agency, they are reviewed by:
 - The Office of the Attorney General
 - No formal deadline
 - The Department of Planning and Budget
 - Policy Analysis (Confidential Gov's Working Papers)
 - Economic Impact Analysis
 - 45 days per the Administrative Process Act



PROPOSED STAGE

- ▶ Once proposed regulations are drafted and adopted by the agency, they are reviewed by:
 - Secretary of Commerce and Trade
 - 14 days per Executive Order 17
 - The Office of the Governor
 - No formal deadline



PROPOSED STAGE

- ▶ Once approved by the Governor's Office, the proposed regulations are published online in the Virginia Register of Regulations.
- ▶ 60 day public comment period.
- ▶ During this period, DMME will hold at least one public hearing to receive comment on the proposed regulations.



FINAL STAGE

- ▶ At the final stage, regulations must again go through executive branch review.
 - Office of the Attorney General (if any change with substantial impact is made)
 - No formal deadline
 - The Department of Planning and Budget
 - 14 days per Executive Order 17



FINAL STAGE

- ▶ At the final stage, regulations must again go through executive branch review.
 - Secretary of Commerce and Trade
 - 14 days per Executive Order 17
 - The Office of the Governor
 - No formal deadline



FINAL STAGE

- ▶ Once approved by the Governor's Office, the final regulation is published in the Register.
- ▶ Becomes effective after a 30 day final adoption period.
- ▶ Visit the Regulatory Town Hall website for more information.
- ▶ www.townhall.virginia.gov



Thank You!

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