



**Maryland**  
Department of  
the Environment

# Marcellus Shale Public Meeting

June 29, 2016

Garrett College, McHenry, MD



# Introduction

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- Oil and gas regulations proposed January 9, 2015. The proposal has expired.
- Legislation enacted during 2015 Session.
  - Hydraulic fracturing regulations must be adopted by October 1, 2016.
  - Regulations may not become effective, nor may a permit be issued, until October 1, 2017.
- Department has published issue papers addressing key aspects of the regulations ([www.mde.maryland.gov/marcellus](http://www.mde.maryland.gov/marcellus))



# How to Participate

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- Public meetings in Allegany, Garrett, and Baltimore.
- Comments on the issue papers due by July 18, 2016 to:
  - [Marcellus.mde@maryland.gov](mailto:Marcellus.mde@maryland.gov) ; or
  - Attn: LMA Director's Office  
Maryland Department of the Environment  
1800 Washington Blvd, Suite 610  
Baltimore, MD 21230
- After regulations are proposed, a formal public comment period will be provided on the entire regulatory proposal.



# Overview

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- Striving for reasonable and balanced regulations with protective and achievable requirements
- Prevention: greater emphasis on standards for well construction and testing to prevent potential problems
- Many provisions of the January 2015 proposal remain unchanged
- Changes considered to ensure continued protection of public health, safety and natural resources and allow for responsible development of the State's natural gas resources



# Standards Maintained from 2015 Proposal

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- The Department recommends retaining the majority of the requirements in the 2015 proposal, including in the areas of:
  - Stormwater, chemical storage, and design of the well pad;
  - Chemical disclosure;
  - Control and reporting of air emissions;
  - Management of wastes and wastewater; and
  - Plugging, abandonment, and bonding.



# Other Requirements Applicable to Marcellus Shale Development

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- Sediment control and stormwater management at State and federal levels
- Non-tidal wetlands requirements
- Water appropriation and use
- New federal requirements related to methane emissions and pipeline safety



# Issue Papers Overview

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- Well construction and testing
- Comprehensive development plan
- Baseline air and water monitoring
- Setbacks and location restrictions

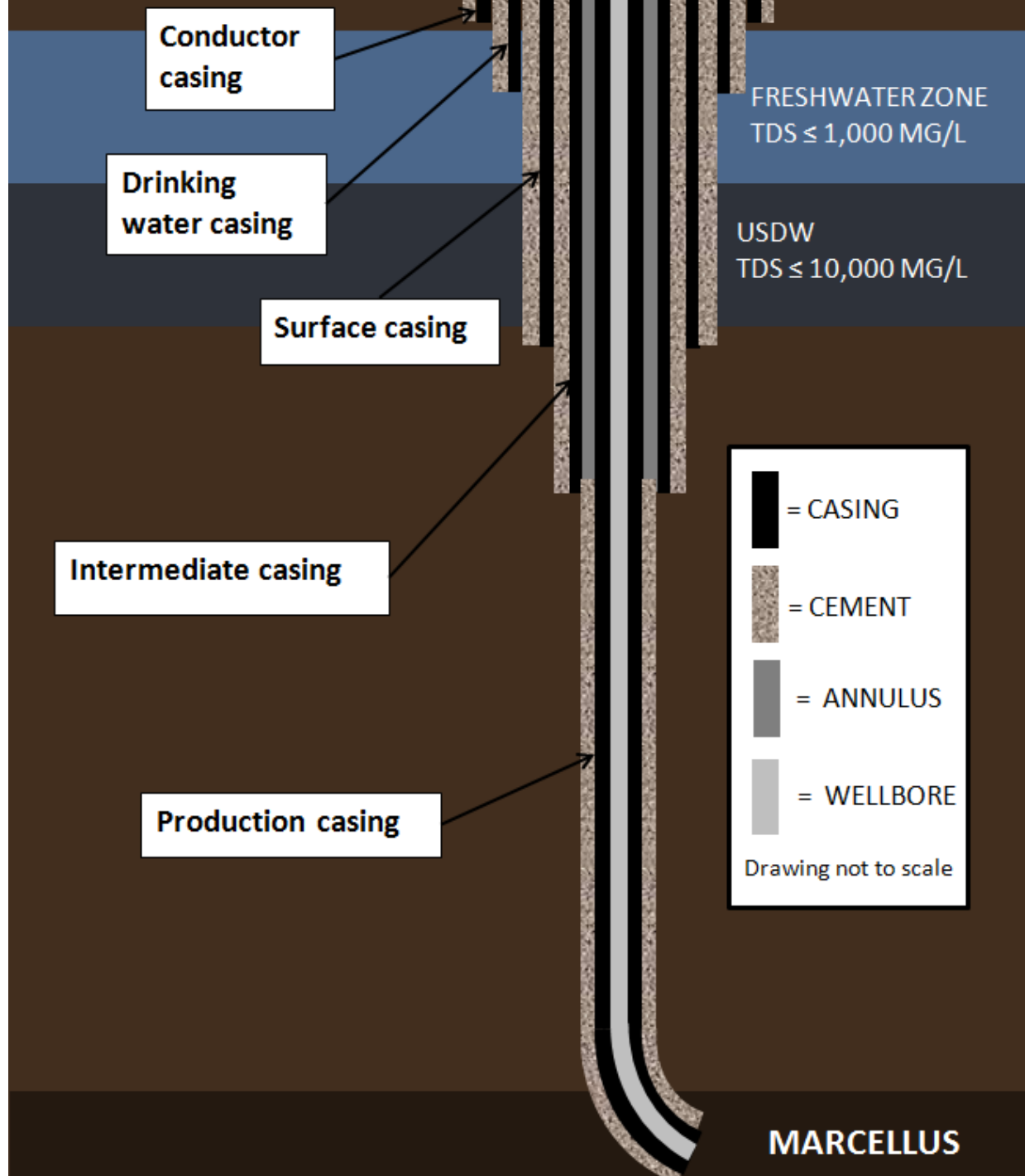


# Well Construction and Testing

## Casing and Cementing Changes

2015 Proposed	2016 Recommended
<p>Three layers of protective casing</p> <ul style="list-style-type: none"><li>• Surface casing (below lowest water having <math>\leq 1,000</math> mg/L TDS)</li><li>• Intermediate casing</li><li>• Production casing</li></ul>	<p>Four layers of protective casing</p> <ul style="list-style-type: none"><li>• Drinking water casing (depth based on nearby drinking water wells)</li><li>• Surface casing (below lowest water having TDS <math>\leq 10,000</math> mg/L TDS)</li><li>• Intermediate casing</li><li>• Production casing</li></ul>
<p>Not clear whether all casing strings must be run to the surface</p>	<p>Require all casing strings to be run to the surface</p>
<p>Allowed the cement for the intermediate casing to stop at the bottom of the surface casing</p>	<p>Require the cement for the intermediate casing to be run to the surface</p>







# Well Construction and Testing

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- **Additional recommendations:**
  - Allow an applicant to propose an alternative to using a pilot hole for each well pad, subject to Department approval.
  - More specific requirements for the integrity and pressure testing plan:
    - Casing shoe testing
    - Production casing and tubing integrity test
    - Periodic testing during life of well, at least every 5 years
    - Integrity testing following shut-in
  - Downhole safety valve
  - Fill production casing annulus with fluid



# Comprehensive Development Plan

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1. Applicant submits draft CDP for agency comment.



2. Applicant publishes notice and holds public meeting.



3. Applicant considers public comments.



4. Applicant submits the final CDP to the Department with the permit application.



5. Permittee maintains and updates the CDP as needed.



# Baseline Ambient Air Monitoring

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- Use existing monitoring efforts to characterize air quality before gas development in western Maryland.
- Future monitoring during active gas development is planned, through NETL and the Department's Piney Run monitoring station.
- Remove requirement to perform baseline and ongoing air quality monitoring at each well pad.
- Pursue amending air toxics regulations to require an evaluation of whether air emissions from a proposed gas well would have an adverse impact on public health.



# Baseline Water Monitoring

2015 Proposed	2016 Recommended
<p>2 years of baseline surface and ground water monitoring required</p>	<p>1 year of baseline surface and ground water monitoring required</p> <p>Allow preliminary permit application review during collection of monitoring data</p> <p>Monitoring protocol must include testing of private drinking water wells within the presumptive impact area, if authorized by the owners of those wells</p>



# Setbacks and Location Restrictions

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## Applicability of setbacks

2015 Proposed	2016 Recommended
<p>Most setbacks applied to the limit of disturbance of the well pad, and other gas development activities resulting in permanent surface alteration, including:</p> <ul style="list-style-type: none"><li>-Permanent roads</li><li>-Compressor stations</li><li>-Separator facilities</li></ul>	<p>Apply setbacks only to the limit of disturbance of the well pad, <u>except</u> for setbacks between access roads and aquatic habitat</p>



# Setbacks and Location Restrictions

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## Property line

2015 Proposed	2016 Recommended
1,000 foot setback	1,000 foot setback
No waiver	Add waiver with written consent of adjacent surface and mineral owners; subject to final Department approval.



# Setbacks and Location Restrictions

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## Public surface water sources

2015 Proposed	2016 Recommended
Prohibited within the watersheds of Broadford Lake, Piney, and Savage Reservoirs	Prohibited within the watersheds of Broadford Lake, Piney, and Savage Reservoirs  Add setback of 2,000 feet parallel to and above a surface water intake





# Setbacks and Location Restrictions

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## Public drinking water wells

2015 Proposed	2016 Recommended
1,000 foot setback from the boundary of a wellhead protection area	Prohibit within the boundary of a wellhead protection area, where defined  Where no wellhead protection area is defined, setback of 1,000 feet



# Setbacks and Location Restrictions

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## Private drinking water wells

2015 Proposed	2016 Recommended
2,000 foot setback	1,000 foot setback



# Setbacks and Location Restrictions

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## Aquatic habitat (setbacks from the well pad)

2015 Proposed	2016 Recommended
450 foot setback	<p>300 foot setback from Use I-P, III, III-P, IV, IV-P, and Tier II water segments</p> <p>100 foot setback for Use I streams</p> <p>100 foot setback from Wetlands of Special State Concern (existing buffer requirement in nontidal wetlands statute)</p> <p>25 foot setback from other wetlands (existing buffer requirement in nontidal wetlands statute)</p>



# Setbacks and Location Restrictions

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## Aquatic habitat (setbacks from access roads)

2015 Proposed	2016 Recommended
450 foot setback	<p>25 foot setback for wetlands and floodplains</p> <p>100 foot setback for streams</p> <p>Where there is no feasible design to maintain the above setbacks in the opinion of the Department, roads must be designed and constructed to minimize impact to the stream and adjacent aquatic habitat.</p>



# Setbacks and Location Restrictions

## Enhanced Flexibility for Several Setbacks

2015 Proposed	2016 Recommended
<p>Development prohibited on land sloped more than 15 percent</p> <p>Setback of 300 feet from cultural or historical sites</p> <p>Setback of 600 feet from Special Conservation Areas identified by DNR</p>	<p>Instead of requiring blanket setbacks or prohibitions, recommend allowing for case-by-case review, with opportunity for additional permit conditions where necessary</p>



Please submit your comments on the issue papers by  
July 18, 2016 to:

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Additional information:

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