

# Opportunity for Public Participation

## Pennsylvania Environmental Quality Board Proposed Regulations for Oil and Gas Well Casing and Cementing (Amendments to Chapter 78)

### Plain Language Summary

*In this document, the words “rules” and “regulations” have the same meaning.*

New regulations are proposed. These new regulations will update existing rules for drilling, casing, cementing, testing, monitoring, and plugging of oil and gas wells. The new regulations will also update rules for protecting public and private water supplies.

***Please look at the attached diagram and definitions which will help clarify this summary.***

### Background Information

Proper casing and cementing of oil and gas wells is very important to protect water supplies and improve public safety. Many of the existing regulations on gas well construction and water supply replacement were created in July 1989 and, for the most part, have not been changed.

The Pennsylvania Department of Environmental Protection (DEP) evaluated the existing regulations because of new drilling and construction practices for Marcellus Shale wells. There have also been incidents with Marcellus wells that affected drinking water supplies. Current rules do not provide enough details on safely casing and cementing wells. Also, existing rules do not address the need for an immediate response by operators to a gas leak complaint. And, they do not require operators to inspect wells regularly.

DEP shared the initial draft of the proposed regulations with companies and environmental groups. We received many comments on how to improve water quality and the quantity of replacement water supplies. Other comments were related to the practices commonly used to cement and case wells. Since most gas leaks are caused by poorly cemented casing, DEP decided to address this issue quickly, in order to add another layer of protection to public health and the environment. Addressing this issue now will protect public health and the quality of drinking water.

DEP also received comments on many other important environmental concerns related to oil and gas wells, and these concerns will be addressed at a future round of rulemaking.

**What is Gas Migration or Stray Natural Gas Migration?** In improperly operated, poorly constructed or deteriorated wells, natural gas may move from the wellbore. This is called gas migration. Migrating gas can affect water supplies, as well as potentially accumulate inside or next to structures such as residences, businesses and farming operations. This could create a risk of a fire or explosion. Gas migration may become a threat to the health, safety and welfare of the public.

**What is Casing and Cementing?** Casing is a steel pipe inserted in the well to keep gas or oil in the well. It is made out of a series of metal tubes installed in the newly drilled hole. Cementing is the practice of pumping cement down between the casing and the wellbore wall to hold it in place and prevent gas from leaking.

## **What are the Proposed New Rules?**

The proposed changes will add new rules related to:

- Casing and Cementing
- Reporting requirements for design, construction, operation, monitoring, plugging, water supply replacement, and gas migration
- New material specifications
- Blow-out prevention
- Performance testing

The new rules will reduce gas migration and provide more protection for both public and private water supplies.

- Properly cementing and casing a well is very important to prevent gas migration. The proposed casing and cementing requirements will provide more protection for home or property owners, and water supplies. These construction standards are similar to standards that have already been adopted in other states such as New York, West Virginia, Ohio, Texas, Oklahoma, Louisiana, Kansas and Montana, and reflect common industry practice.
- If a public or private water supply (for example, a private water well) is polluted or reduced, the operator must restore or replace it with a source that meets drinking water standards or is as good as the previous supply. If the cost to operate and maintain the new water supply is higher, the operator will pay for the increase permanently. If the previous quality of their water exceeded safe drinking water standards, affected parties may take legal action to have their water supply restored to its original quality. The Oil and Gas Act presumes that an operator has polluted the water supply if the contamination occurs within 6 months of drilling the well and the gas or oil well is within 1,000 feet of the water supply, unless the operator has taken a sample from the water supply that shows it was contaminated before drilling. If a homeowner refuses to let the operator take the sample, the operator is not presumed to have impacted the water supply. For this reason, it is important for water supply owners to allow well operators to take a sample from the water supply. The water supply owner should ask the operator for a copy of the lab test results.
- Operators must inspect all of their wells every three months and report the results to DEP every year. If the inspection shows the casing is not working properly, or there are signs of leaks or too much pressure within the wellbore, the operator must immediately notify DEP and fix the problem.
- The proposed regulations also set procedures the operator and the Department must follow if gas migration occurs.
- Before drilling a well, operators will need to have a casing and cementing plan that shows how the well will be drilled and completed. Some of the new requirements are:
  - Centralizers, which keep the casing centered in the wellbore, must be used at set locations to make sure that cement is evenly distributed between the casing and the wellbore.

- Casing cement must meet the standards for oil and gas wells set by the American Society of Testing Materials.
- Used casing and casing strings attached to heavy duty blow-out preventers must be pressure tested.
- Documentation of cement quality and cementing practices used at each well must be kept for DEP's inspection.
- The proposed revisions:
  - Clearly define when blow-out prevention equipment must be used.
  - Require that controls of such equipment be located to allow their use in case of an emergency.
  - Explain how defective equipment must be treated.
  - Specify the training a person must have in order to use the equipment.
- The new regulations require operators to investigate gas migration complaints quickly and to notify DEP. If high levels of natural gas are found, the operator must call emergency responders immediately and take action to correct the situation.
- DEP may modify construction and plugging requirements when existing regulations do not provide sufficient protection of the environment.
- The operator will be required to submit information such as: what is the source of the water used for drilling, and a list of chemicals used to stimulate the well.
- Every six months, the drilling company will have to report how much natural gas has been produced. DEP will make this information available to the public on the Department's Oil and Gas website. Please visit: <http://www.depweb.state.pa.us> click on Oil and Gas (*information will be available within a few months*).

### **Benefits of the Proposed Regulations**

- More protection for home or property owners
- More protection of water sources, both public and private
- Early detection of construction problems and more reporting will increase safety and protection of human health and the environment
- Less chance of natural gas escaping the well (gas migration)
- Provide specific steps for responding to an emergency

## **Public Comment Period**

As a resident of this Commonwealth, you are encouraged to actively participate in the creation or revision of regulations that can affect your health, quality of life and the environment. There is a 30-day public comment period and you are invited to submit comments, questions and recommendations on how to improve these regulations. All questions will be answered in writing, and a copy of the answers will be posted at the public participation center on DEP's website: <http://www.depweb.state.pa.us> (click on public participation). If you do not have internet access, please contact the Office of Environmental Advocate at 1-888-723-3721 or (717) 783-5630 and we will mail you a hard copy of the document.

A series of public meetings will be held to provide information and answer questions from the public. A schedule of the meetings is attached to this document.

### **How and When to Submit Comments?**

*(Please see the attached sample letter)*

#### **All comments must be received by August 9, 2010**

- **By mail:** Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477
- **Express Mail:** Environmental Quality Board  
Rachel Carson State Office Building, 16th Floor  
400 Market Street  
Harrisburg, PA 17105-2301
- **Email: \*** RegComments@state.pa.us

\* - If you do not receive an email acknowledging comments submitted electronically within 2 working days, please email your comments again to ensure that they were received. Please check your "spam" or "junk" email folders to make sure that your service provider did not redirect the message to those folders.

**Have any questions or need some clarification about this amendment?** Please see the contact information below:

- Scott Perry, Director, Bureau of Oil and Gas Management (717) 772-2199
- Persons with a disability may use the Pennsylvania AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 (voice users).

**To read the full proposed amendment, please visit DEP's Website to download the Proposed Rulemaking Document and the Proposed Regulations.**

**Proposed Regulations:** <http://www.pabulletin.com/secure/data/vol40/40-28/1248.html>

**Link to Chapter 78 (Existing Regulations):** <http://www.pacode.com/secure/data/025/chapter78/chap78toc.html>

**Sample Letter or Email**

Date

Environmental Quality Board  
Pennsylvania Department of Environmental Protection  
P.O. Box 8477  
Harrisburg, PA 17105-8477

RE: Pennsylvania Department of Environmental Protection's Environmental Quality Board (EQB) proposed amendment to the regulations on Oil and Gas Casing and Cementing, Chapter 78.

Dear Members of the Environmental Quality Board:

I (**agree or disagree**) with the recommendation by the EQB to update the existing requirements regarding the drilling, casing, cementing, testing, monitoring and plugging of oil and gas wells, and the protection of water supplies.

Additional Comments (optional, but we highly encourage you to include)

Second paragraph: (Explain why do you agree or disagree)

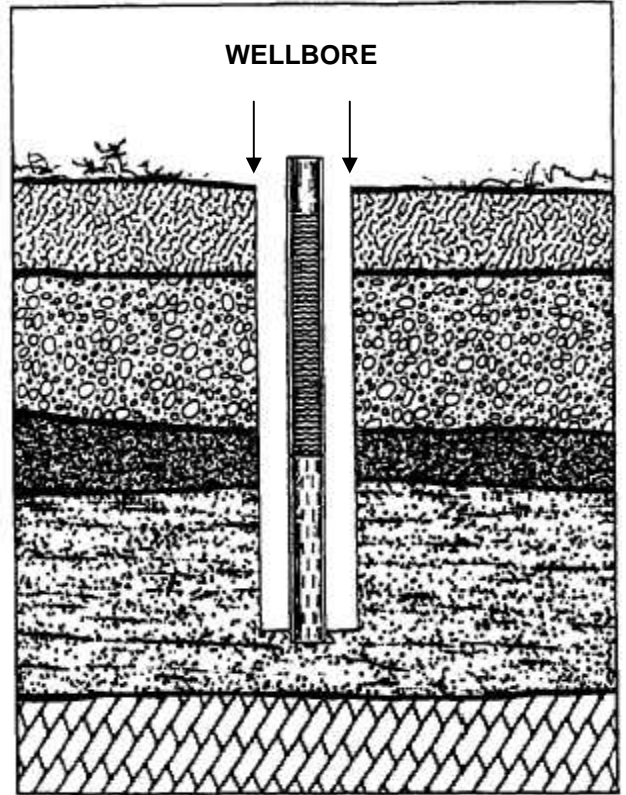
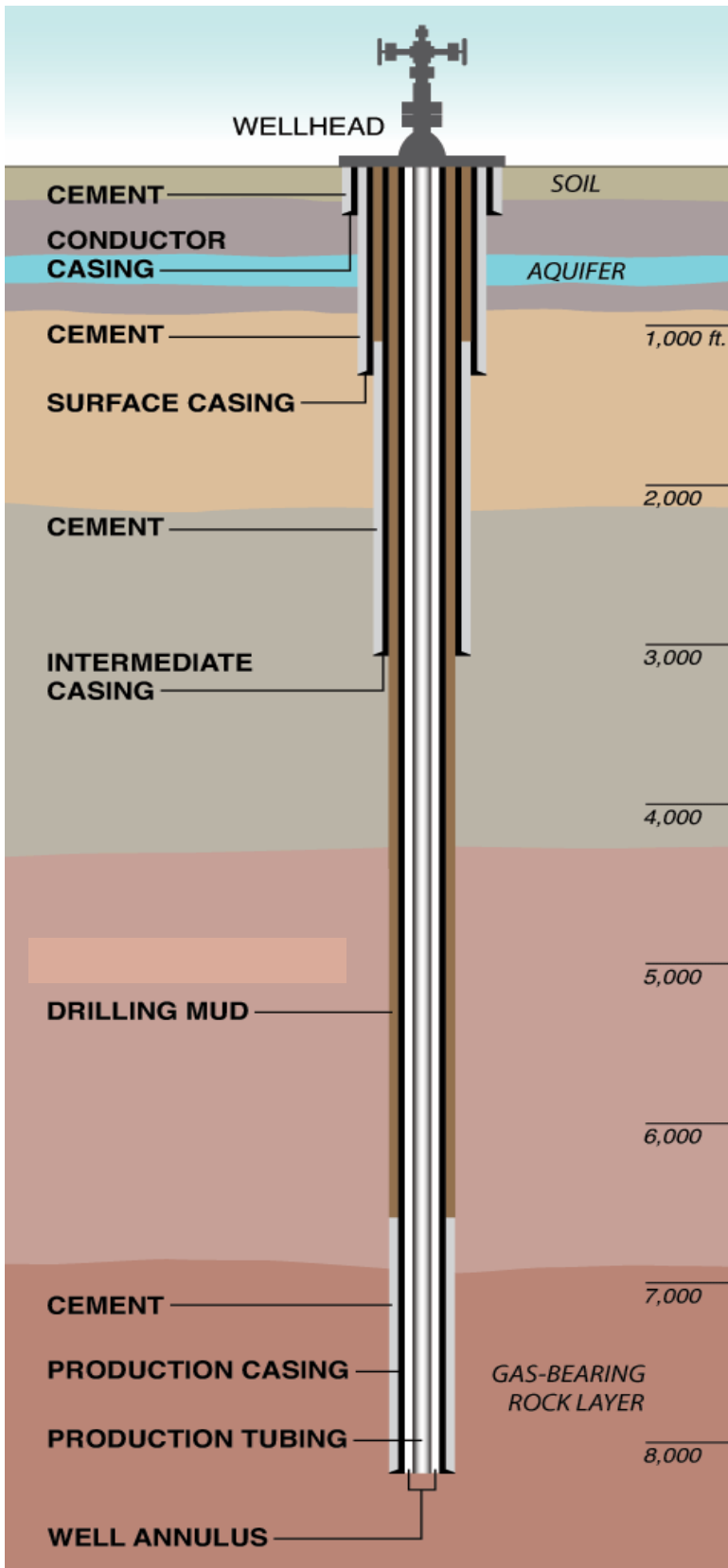
Third paragraph: (What do you think DEP could do to improve the proposed regulations?)

Fourth paragraph: (How does this issue affects your community? Do you have anything else to add?)

Sincerely,

Your Name and Signature  
Your Address

## Diagram of a Natural Gas Well



**Source:**

[http://www.google.com/imgres?imgurl=http://www.tpub.com/content/engine/14080/img/14080\\_214\\_2.jpg&imgrefurl=http://www.tpub.com/content/engine/14080/css/14080\\_214.htm&usg=\\_\\_Q0TemSNwL11eTyRi-WsGHrBSN1Y=&h=425&w=320&sz=42&hl=en&start=110&um=1&itbs=1&tbnid=W\\_84OIQbMq8EcM:&tbnh=126&tbnw=95&prev=/images%3Fq%3Dcasing%2Band%2Bcementing%26start%3D100%26um%3D1%26hl%3Den%26sa%3DN%26ndsp%3D20%26tbs%3Disc h:1](http://www.google.com/imgres?imgurl=http://www.tpub.com/content/engine/14080/img/14080_214_2.jpg&imgrefurl=http://www.tpub.com/content/engine/14080/css/14080_214.htm&usg=__Q0TemSNwL11eTyRi-WsGHrBSN1Y=&h=425&w=320&sz=42&hl=en&start=110&um=1&itbs=1&tbnid=W_84OIQbMq8EcM:&tbnh=126&tbnw=95&prev=/images%3Fq%3Dcasing%2Band%2Bcementing%26start%3D100%26um%3D1%26hl%3Den%26sa%3DN%26ndsp%3D20%26tbs%3Disc h:1)

## **DEFINITIONS**

**Wellbore (or drill hole)** - A wellbore is any hole drilled for the purpose of extraction of natural resources such as water, gas or oil.

**Casing** - A steel pipe inserted in the well to keep gas, oil and other fluids in the well. It is made out of a series of metal tubes installed in the newly drilled hole.

**Cementing** - the practice of pumping cement down between the casing and the wellbore wall to hold it in place and prevent gas from leaking.

**Plugging** – The use of cement and other materials to permanently seal the well.

**Water supply** – a source of water for human consumption or use, or for agricultural, commercial or industrial use.

**Gas migration** – Unintended movement of natural gas from the wellbore due to poorly constructed or deteriorated wells.

**Material specifications** – A clear set of requirements that a material, product, or service needs to meet (for example, cement used in wells). If that material fails to meet one or more of those requirements, it may be referred to as being out of specification.

**Blow-out preventers** - A large valve or series of valves that can close an active oil or natural gas well. If underground pressure forces oil or gas into the wellbore, operators can close the valves remotely to prevent a blowout, and regain control of the wellbore.

**Performance testing** - It involves testing for safety, reliability and to confirm that the device meets the standards.

# **PUBLIC HEARINGS SCHEDULE**

**July 19, 2010 - 7:00 p.m.**

Tunkhannock Area High School Auditorium  
120 West Tioga Street  
**Tunkhannock, PA 18657**

**July 21, 2010 -7:00 p.m.**

Lycoming College  
Heim Science Center Building Room G-11  
700 College Place  
**Williamsport, PA 17701**

**July 22, 2010 - 7:00 p.m.**

Department of Environmental Protection  
Northwest Regional Office  
1st Floor Conference Room  
230 Chestnut Street  
**Meadville, PA 16335**

**July 22, 2010 - 7:00 p.m.**

Department of Environmental Protection  
Southwest Regional Office  
Waterfront Conference Room A and B  
400 Waterfront Drive  
**Pittsburgh, PA 15222-4745**