

New DEP Rules Will Protect Water Supplies

This column is presented weekly by the Public Education sub-committee of the Clinton County Natural Gas Task Force in an effort to provide accurate, up-to-date information on activities surrounding the Marcellus Shale formation and the natural gas exploration industry.

Pennsylvania's Environmental Quality Board recently finalized new rules pertaining to the casing and cementing of oil and gas wells. The new regulations amend Chapter 78 of the State's Oil and Gas Act and update existing rules for drilling, casing, cementing, testing, monitoring, and plugging of oil and gas wells. The new regulations also update rules for protecting public and private water supplies.

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 since then.

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.

To that end, the new regulations were proposed, and hearings were held across the state (the closest of which was a July 21, 2010 public hearing in Williamsport) to generate public comment. The new regulations are slated to take effect in the near future.

DEP shared the initial draft of the proposed regulations with companies and environmental groups. They 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.

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 New Rules? The 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; and 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 new 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 (or quantity). The Oil and Gas Act presumes that an operator has polluted the water supply if the contamination occurs within six 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.
- Operators will now be required to notify the DEP within 24 hours of receiving a water supply complaint.
- The new 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:

