

# The New York Times

## Findings on Natural Gas Production's Consequences to Public Health and the Environment

From the "Drilling Down" investigative series by Ian Urbina

### Regulation Lax as Gas Wells' Water Hits Rivers (February 26, 2011)

- Many EPA scientists warn that gas drilling waste is a threat to drinking water in Pennsylvania. PA is the only state allowing drilling waste discharge through sewage treatment plants into rivers.
- Over a million gallons of toxic liquid per hydrofracked gas well can return to the surface as waste containing naturally occurring corrosive salts, carcinogens, and radioactive elements; more toxins, including carcinogens, are added by chemicals used in the drilling process.
- Over 1.3 billion gallons of toxic wastewater was produced by Pennsylvania gas wells over the past three years. Most of this wastewater went to sewage treatment plants not equipped to remove and radioactive materials.
- Air pollution: fumes containing benzene and toluene from gas drilling contributed to Wyoming failing to meet federal standards for air quality for the first time in its history; asthma has risen to 25% among young children in heavy drilling areas of Texas; harmful ozone levels increase in drilling areas.
- Radioactivity: Many gas wells produce wastewater with levels of radioactivity hundreds or thousands times as high as the allowable federal drinking-water standards.
  - Most sewage treatment plants accepting drilling waste do not test for radioactivity.
  - Most downstream drinking-water intake plants have not tested for radioactivity since 2006, before the recent drilling boom began.
- EPA officials described a 2008 incident of waste discharge in the Pittsburgh area's Monongahela River as "one of the largest failures in U.S. history to supply clean drinking water to the public." Pittsburgh residents were advised by officials to drink bottled water.

### Gas Drillers Recycle Wastewater, but Risks Remain (March 1, 2011)

- The gas industry benefits from special exemptions from federal hazardous waste laws which define gas drilling waste as "residual." Without these exemptions, drillers would be forced, at great expense, to:
  - test their waste more rigorously for toxicity;
  - ship any radioactive sludge or salts to special landfills in Idaho or Washington.
- Recycling wastewater has not eliminated environmental and health risks.
  - Some methods leave behind radioactive salts and sludge dangerous to human and aquatic life when it enters waterways.
  - Gas drillers sell their wastes in Pennsylvania and West Virginia to be spread on roads for dust suppression and de-icing. These wastes, including radioactive and toxic elements, run off roads into waterways, and can end up in drinking water.

- Recycling wastewater concentrates contaminants, including barium, strontium and radioactive elements.
- The total amount of gas drilling waste is expected to increase, despite recycling.
- Natural-gas companies recycled less than half their wastewater during the 18 months ending December 2010.
- At least 50 million gallons of gas-drilling wastewater are unaccounted for.
- Pennsylvania proposed a manifest tracking system for drilling wastewater that would have ensured each load of waste reached its destination (verifying the waste is not dumped at the side of the road).
  - The Marcellus Shale Coalition staunchly and successfully opposed this effort.
  - Three top state officials involved in the decision-making process causing the manifest system proposal not to be implemented have since left their posts for jobs in the natural-gas industry.
- Wells continue to ooze flowback for decades, after they are plugged and abandoned. As wells age, flowback fluids become more toxic, according to Professor Anthony Ingraffea of Cornell University.

### **Politics Seen to Limit EPA in Regulation of Natural Gas (March 3, 2011)**

- In 1987, the EPA's conclusion that much drilling waste is hazardous and should be tightly controlled was "not what Congress heard." The study's author said, "It was like the science didn't matter."
- Natural gas drillers are exempt from parts of at least 7 of the 15 sweeping federal environmental laws, which regulate most other heavy industries and are supposed to protect air and water.
- In 2010, EPA planned to call for a moratorium on hydrofracking in New York City's watershed. This was removed from the final draft of a publicly released letter due to "politics," according to an EPA source.
- EPA officials say drilling waste from Pennsylvania is being discharged with inadequate treatment into rivers that provide drinking water to more than 16 million people.
- EPA dropped plans to model whether rivers can safely dilute radioactivity in wastewater discharges.
- Industry and congressional pressure narrows the focus of EPA studies on hydrofracking.
  - A draft of the 2004 study of shallow hydrofracking mentioned "possible evidence" of aquifer contamination, but the report concluded there was "little or no threat to drinking water."
  - Five of seven members of the 2004 study's review panel were current or former employees of the oil and gas industry. After the 2004 study's release, an EPA whistleblower said the study agency was strongly influenced by industry and political pressure.
  - Several agency scientists said the scope of the upcoming study on hydrofracking has been narrowed partly because of pressure from the industry and Congress. The study will no longer examine toxic fumes released during drilling, or the impact of drilling waste on the food chain.
- Federal scientists say the current study is squelching research by regional offices of the EPA, as regional directors were informed that the national study would be "the only forum for research on hydrofracking."
- Some EPA lawyers say drilling wastes are "mystery liquids" and their discharge into rivers and streams is a clear violation of federal pollution laws. These lawyers are advocating for the agency to intervene in Pennsylvania, an action that could potentially halt the breakneck growth of drilling.