

DAVID A. PATERSON
GOVERNOR



STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

ALEXANDER B. GRANNIS
COMMISSIONER

DEC 30 2009

Honorable William L. Parment
New York State Assembly
547 Legislative Office Building
Albany, NY 12248

Dear Assemblyman Parment: *Bill,*

Thank you for your inquiry regarding the November 8, 2009 article in the *Binghamton Press & Sun-Bulletin* entitled: "Natural gas quest: state files show 270 drilling accidents in past 30 years." I welcome this opportunity to provide you with the facts which, in my view, demonstrate the success of DEC's Spill Response and Oil & Gas regulatory programs.

Walter Hang culled the referenced records from DEC's own on-line Spill Incident Report database, which includes reports submitted through the agency's Spill Hotline and other mechanisms. About 16,000 reports are filed each year, and the database currently contains over 350,000 reports dating back to 1979. DEC staff carefully reviewed the 270 reports compiled by Walter that are referenced in several news articles, including the one you mentioned, and determined the following:

Well Drilling Incidents:

- Contrary to the headline, only 10 of the 270 incidents occurred during well drilling activity, 7 of which were at gas well sites, 2 of which were at a single oil well site, and the final one at a solution salt mining well. To put this into context, about 10,400 wells regulated under Article 23 of the Environmental Conservation Law have been drilled in New York since January 1, 1979.

Of the 9 reported incidents relating to oil or gas well drilling over the past 30-year period, only 1 involved methane migration and home evacuations. Likewise, only 1 drilling incident was reported as an explosion. (A second incident reported as an explosion was actually an oil stock tank fire that started as the result of a lightning strike.)

Production Site Incidents:

- Only 44 of the incidents occurred at natural gas well production sites i.e., after the well drilling and any stimulation were completed. Another 106 occurred at oil well production sites. As you know, there are nearly 14,000 active oil and gas wells in the state. None of the incidents at production sites involved explosions, water well contamination or evacuations.

Accordingly, while the article gives the impression that there have been 270 incidents related to gas drilling and gas production sites, in fact over the 30-year period there have only been 51 such incidents reported, 7 of which occurred during well drilling and 44 of which occurred on the production site.

The remaining incidents were not related to gas drilling or gas production sites and fall into the following categories:

Incidents Unrelated to Oil and Gas Drilling:

- 53 of the 270 spills cited by Walter are completely unrelated to oil or gas drilling or production activity. These include lightning strikes, vehicle accidents, problems associated with road spreading for ice control, breaks in a chemical plant's brine supply line and gas transmission line leaks, among other things.
- 40 of the 270 spills cited by Walter occurred at abandoned well sites; abandoned wells have since been plugged at 11 of these sites by DEC or USEPA. The problem of abandoned wells (drilled and abandoned before New York had a modern regulatory program) is separate and distinct from incidents that occur at active drilling and production sites. DEC's efforts to address orphaned and abandoned wells are discussed in further detail below.
- 17 of the 270 spills cited by Walter occurred at natural gas storage facilities, most of these were brine leaks or brine tank overflows.

Summary:

Site or Activity Type	Number of Incidents 1979-2009
Oil well production sites	106
Unrelated to oil or gas drilling or production	53
Gas well production sites	44
Abandoned well sites	40
Natural gas storage facilities	17
Well drilling activity	10

Accordingly, the suggestion that there is a significant volume of gas drilling incidents that calls into question the effectiveness of state oversight is not borne out by the facts. There is always a danger in statistics that until you drill down (so to speak), they may give a wrong impression. In this case, when you consider that over the 30-year period there were more than 350,000 spill reports, 270 incidents do not indicate a significant problem. The same conclusion follows when you consider that during the time the 270 incidents occurred, over 10,000 wells were drilled. When those incidents are more closely examined, it turns out that only a handful of them actually involved gas drilling and that only a single incident led to methane migration, it is clear that there is no systemic problem and no basis for the conclusion that DEC's regulatory program is anything other than successful. On a percentage basis, spills related to gas well drilling and production over the 30-year period examined by Walter account for slightly more than .0001% of all reported spills.

News articles picking up on Walter's "findings" have cited a concern that spills in the database were reported by third parties instead of being discovered by DEC. This reveals a fundamental misunderstanding of the state's spill response program, which exists specifically to enable third parties to notify DEC of releases to the environment. Anyone can and is encouraged to report any spills they observe or suspect. In addition, spillers are obligated under both state and federal requirements to report their spills.

DEC's Spill Response staff investigates reports received through its Hotline and takes action based on the type of material spilled, the potential environmental damage and safety risks to the public. Both immediate response and continued cleanup activity vary depending on the type of material spilled and the damage caused. Not every reported spill causes damage, many are of small quantities which are quickly and easily cleaned up and some reports are of suspected spills that are never actually confirmed.

DEC oversees the process when cleanup is required. Spill Response staff takes or directs any necessary emergency measures to contain or remediate a spill. When Spill Response staff subsequently determines that another DEC program has regulatory jurisdiction over an activity and the authority to compel additional actions, that spill is referred to the pertinent program for further action and the spills database record is closed. Thus, while "cleanup standards" may not have been met at the time the case is transferred, the very purpose of the transfer is to assure that appropriate action is taken pursuant to applicable programmatic requirements.

The November 8, 2009 article also discusses the potential for methane migration associated with drilling operations, an issue that is acknowledged and addressed by both the existing 1992 Generic Environmental Impact Statement on the Oil, Gas and Solution Mining regulatory program and the draft Supplemental Generic Environmental Impact Statement released on September 30, 2009. After describing an incident in Dimock, PA, the article states "DEC spills data show the problem has a history in New York, even without the Marcellus" and cites an isolated incident in Freedom, NY as "one of the 270 cases Hang highlights." Two additional "cases" are then cited. The Freedom incident, however, is actually the only case of drilling-associated methane migration among the 270 referenced records. I note as an aside that the 270 incidents characterized in the headline as "drilling accidents" seem to all be characterized as "methane migration" in the cited paragraph, which leaves a false impression as to the nature of the incidents.

Highlighted Incidents – November 8, 2009 Article:

More details about the three events highlighted in the November 8, 2009 article are presented below. While the incidents described are very unusual, DEC's responses exemplify the effectiveness of our existing procedures and the professionalism, expertise and commitment of Department staff.

Town of Freedom, Cattaraugus Co. (Spill #9610441; API Well ID #31-009-22657-00-00). This incident actually occurred in 1996, not 1999 as stated in the article, and local officials commended DEC for its response. This was a serious incident that created a dangerous situation of short duration and, as noted on Walter's website, the State Supreme Court in Cattaraugus County awarded damages to affected individuals in April 2005. This was a unique incident caused by human error that in no way reflects routine operations. It was also completely unrelated to horizontal drilling or hydraulic fracturing of any type and no surface spill of hydrocarbons or other chemicals occurred.

A strong flow of gas was encountered about 2,600 feet below ground and the drilling crew determined it was unsafe to continue drilling. Well control equipment was activated and fluid was brought to the site to "kill" the well i.e., counteract the underground gas pressure. Normally in this type of emergency operation, fluid is circulated through the well, returned to the surface and re-circulated. In this case, the returned fluid was not suitable for reuse. Operations were shut down while the operator waited for more clean fluid to be brought to the site and valves on the well were closed before stable conditions had been achieved. In doing this, the operator violated basic engineering procedures. As a consequence of this action by the operator, the wellbore became pressurized which caused methane from the deep underground formation to find other routes to the ground surface. Manifestations included a pond and residential water wells in the area.

DEC's response to the operator's error included:

- immediate response by Regional Mineral Resources staff who remained on-site, coordinated communication with other agencies and directed the operator's remedial efforts day and night;
- immediate readiness by Regional Spill Response staff to address potential oil discharge (although none occurred); and
- Forest Ranger involvement in communication and coordination assistance, including overnight at the well site.

The local emergency management office, fire departments and the State Emergency Management Office also responded to this incident, and the state Office of Fire Prevention and Control and the Department of Health were kept fully informed at all times. As a safety precaution, 12 families were evacuated from their homes in the adjacent town of Yorkshire. The well was successfully brought under control by the next day, the flow of ebullient gas diminished and all but one of the families had returned to their homes by the third day. The Yorkshire Town Supervisor sent a letter to DEC on behalf of the Town Board and the community expressing commendation and gratitude for the Department's quick response and supervision.

As you may recall, concerns about ebullient gas arose in Chautauqua County in the 1980s and then-Commissioner Williams addressed the situation in a decision issued after a public meeting held in Jamestown. That decision is the foundation of our current well construction requirements, the effectiveness of which is demonstrated by the rarity of gas migration incidents. The 1996 incident described above is the most recent event of this type to have occurred in New York, although about 3,300 Article 23 wells have been safely drilled in the 13 years since then.

This type of operator error, of course, is inexcusable. Considering this is the only incident of its kind among the 270 cited in the article, it is fair to conclude that this type of operator error is both highly unusual and an aberration.

Town of Independence, Allegany Co. (Spill #0375293; API Well ID #31-003-14571-00-00). This event was not associated with drilling or hydraulic fracturing. A valve malfunctioned at a facility associated with an injection well that is used to dispose of brine produced at three of the operator's natural gas storage fields. It was the responsible party who reported the spill and suggested that brine may have flowed into nearby Chenunda Creek. There was no evidence, however, of a fish kill and the Environmental Conservation Officer who investigated reported that although vegetation impacts were noted on a nearby field, there was no evidence of the brine in the Creek. Correspondence in the Division of Water's file indicates that the gas storage operator voluntarily provided water treatment to two or three nearby residents to ameliorate concerns about the potential for impacts to their private wells, although no such impact was ever confirmed. Division of Water staff also reviewed plans submitted by the storage operator for improved practices to prevent future similar events.

DEC's response to this incident included:

- Immediate response and documentation by Spill Response and Law Enforcement staff; and
- Continued monitoring by Division of Water staff of the operator's follow-up actions.

The incident occurred in 2003 and there has not been a recurrence at the subject facility.

Town of Lebanon, Madison Co. (Spill #0813694; API Well ID #31-053-26305-00-00). A rig fire and diesel spill in Lebanon occurred on March 19, 2009. This was the drilling-related incident referenced above that was initially reported as an explosion. There were no public safety or long-term environmental impacts. This event was not related to hydraulic fracturing and occurred before any horizontal drilling took place at the site.

The well experienced an unexpected flow of natural gas to the surface and an unknown ignition source started a fire. Fuel lines on the rig melted, resulting in the release of 200 gallons of diesel fuel. Two rig workers suffered minor injuries and were treated and released by a local hospital. DEC Spill Response staff directed cleanup efforts. Cleanup included pumping of diesel fuel from an area on the ground where it had pooled; placement of absorbent materials to soak up spilled materials and protect a nearby stream; and removal of petroleum-affected soils, hay bales and organic debris. The spill record indicates that the spill did not reach the nearby stream, that all of the spilled material was recovered, that no threat to ground or surface water occurred, that all contaminated soil and debris were properly disposed of and that the remediated site met cleanup standards within two months of the spill.

DEC's response to this incident included:

- Immediate and continued involvement by Spill Response staff until cleanup was complete, including site visits, direct oversight of cleanup contractors and notification to the Madison County Health Department. The County's Director of Environmental Health later attested to the thoroughness of DEC's oversight.
- Immediate and continued involvement by Mineral Resources staff, including repeated visits to this specific well site and development of enhanced well control requirements for similar wells to be drilled in the area.

The drilling company, Norse Energy Corporation (formerly Nornew, Inc.), has drilled 14 wells in Madison and Chenango Counties since January 1, 2009, and during that time Mineral Resources staff have conducted more than 200 related field inspections. Staff is present to inspect drilling operations on a weekly or more frequent basis and has regular additional meetings and telephone contact with Norse Energy about its operations, including holidays and weekends.

Well control is discussed in the 1992 Generic Environmental Impact Statement, as is the potential for oil spills and responsibility for oil spill response. The draft Supplemental Generic Environmental Impact Statement also notes the potential environmental impacts of fuel spills at well pads and describes proposed preventative measures in considerable detail.

Abandoned and Orphaned Wells:

As noted above, 40 of the 270 listed spills occurred at abandoned well sites and should not, therefore, legitimately be counted among incidents that are associated with active drilling and production.

DEC has records on over 4,700 unplugged wells that are considered orphaned, i.e., they are not in active production and no responsible owner can be located. Virtually all of our orphaned wells were drilled before New York established a regulatory program; they may have never been plugged or they may have been plugged using older techniques that are not as reliable and long lasting as modern methods. There may be as many as 30,000 or more additional orphan wells drilled dating back to the 1820s for which no records exist. Staff discovers abandoned wells every year during scheduled inspections or complaint investigations. More than 600 wells are on DEC's plugging priority list.

New York has an Oil and Gas Account which was created to cover the costs of plugging problem abandoned wells. It is funded by a \$100 per well permit fee; the balance on November 30, 2009 was \$304,191. Because the funds are insufficient to fully address the problem, DEC routinely pursues other means to plug wells. This includes work with the EPA, using federal funds from the Oil Pollution Act of 1990. DEC and EPA have plugged about 300 abandoned wells during the past several years, including at 11 of the 40 abandoned sites listed in Walter's compilation. The plugging work includes site remediation and reclamation.

DEC's current regulatory program, including financial security requirements, annual reporting requirements and approval requirements for maintaining shut-in wells, is designed to prevent modern wells from becoming orphaned. Addressing orphaned wells is clearly a legitimate subject for discussion, but lumping the problems caused by orphaned wells into a report designed to cast doubt on the effectiveness of the current regulatory regime covering new drilling activity is wholly inappropriate and misleading.

Conclusion:

I appreciate your interest and confidence in DEC's regulatory oversight of natural gas drilling in New York State. While no regulatory program can completely eliminate equipment failure, human error or the possibility of accidents, I think it is clear that when put into the proper context and perspective the reported information shows that the incidence of spills and other pollution events at modern natural gas well sites is exceedingly low and, in fact, the very data Walter cites supports a conclusion that New York's regulatory program is highly effective. Requirements in place since the 1980s have successfully rendered drilling-associated methane migration so rare that there has not been a reported incident since 1996. Objective analysis also shows that when problems do occur, they are promptly and effectively addressed by DEC's Spill Response and Oil & Gas regulatory programs and staff.

Please feel free to call me directly if you have further questions or need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "A. Grannis", written in a cursive style.

Alexander B. Grannis