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Natural gas quest: State files show 270 drilling accidents in past 30 years

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The state's depiction of a clean, tightly regulated natural gas industry just got a shot of muck in the eye.

As the debate over the merits of Marcellus Shale development reaches a crescendo, an Ithaca researcher has culled a list of 270 files documenting wastewater spills, well contamination, explosions, methane migration and ecological damage related to gas production in the state since 1979.

Walter Hang, president of Toxic Targeting, compiled the files using the Department of Environmental Conservation's own hazard substances spills database.

Hang runs an environmental research firm that sells data to interested parties, including engineers, consultants and municipalities. He also has a background as an environmental advocate, and he relishes the role as a public watchdog.

"We're students of how you clean this crap up," he said. "That's what we really care about."

DEC officials responded that the proportion of files relating to the oil and gas industry is small -- less than 0.1 percent -- of the total number of spills recorded on the database.

Hang said his company publicly released the list Monday to show regulation of the state's gas industry is "fundamentally inadequate."

"All we wanted to do is test the fundamental assessment the DEC often makes: Existing regulations are just fine," he said.

Fracking regulations

By Hang's assessment, they are a long way from fine. Only 60 of the 270 cases were actually caught by DEC regulators. Many were called in by residents, public safety officials, affected parties or "people who just stumbled over them," he said.

The complaints are related to traditional wells drilled through the decades, most of them in the Southern Tier and western New York.

They come to light as the state creates regulations for a new type of horizontal drilling that would be used to develop the Marcellus, the largest natural gas reserve in the country, running under the Southern Tier and throughout the Appalachian Basin. In addition to drilling horizontally through bedrock, Marcellus production requires a process called hydraulic fracturing -- pumping millions of gallons of water and chemical additives into wells under high pressure to fracture the bedrock and release gas.

The process would produce volumes of waste hundreds or thousands of times greater than what has been produced from traditional wells.

"I don't have anything against drilling, but we have enough pollution around here already, and this is going to be drilling on an unprecedented level," Hang said.

Debate over the merits and drawbacks of drilling has been fierce for the last 18 months, prompting DEC officials to suspend Marcellus permitting until it develops regulations for it. A public hearing on the proposal is scheduled for 6 p.m. Thursday at Chenango Valley High School in the Town of Fenton.

One of the most commonly documented problems is methane migration, which means natural gas flows from production formations and goes places where it shouldn't, such as water wells, basements or barns.

In Dimock, Pa., state regulators have ordered Cabot Oil & Gas to replace 13 water supplies ruined by methane migration near drilling operations into the Marcellus. One well exploded.

DEC spills data show the problem has a history in New York, even without the Marcellus.

In Freedom, for example, 12 families were evacuated in 1999 after gas moved through a fault and surfaced in a neighborhood 1 1/2 miles away, bubbling up in ponds, ditches, barns, basements and yards. The disaster was caused by equipment failure on a drill rig, although no fines or penalties were recommended, according to the file from the DEC's spills database.

It's one of the 270 cases Hang highlights. Some are more recent.

In 2003, about 100,000 gallons of brine spilled, contaminating Shanada Creek in Independence after a valve broke, according to the record.

In May of this year, a 300-gallon diesel fuel spilled after an explosion and fire at a Nornew rig in Lebanon.

Accidents 'rare'

The DEC has determined regulations being crafted for horizontal drilling and fracking used in Marcellus production would not apply to traditional wells. Hang, holding the list of problems as Exhibit A, argues the entire regulatory process needs to be rebuilt from scratch.

"They say their existing regulations are completely adequate, and their own data clearly shows this isn't true," he said.

In public meetings about drilling on state land in the summer of 2005, DEC regulators presented slide shows emphasizing how effectively drill pads and pipelines are reclaimed as lush wildflower-filled fields and meadows after drilling, characterized as a short-term disturbance.

During public meetings crowded with residents concerned about the effects of Marcellus Shale production last year, representatives from the state's Division of Mineral Resources pointed to the industry's successful history in New York as evidence it was prepared for Marcellus development

Asked how local emergency responders could prepare for a spill, fire or explosion without knowing what chemicals are used in the hydraulic fracturing process, Linda Collart, regional supervisor with the DEC's Division of Mineral Resources, responded: "We don't anticipate any significant emergencies. ... These things are rare."

Asked whether the state was ready for an influx of new drilling activity beyond all historical comparisons, Collart responded: "We have been doing fine so far. ... No problems."

DEC officials, confronted with Hang's list late last week, stood by that assessment.

Dennis Farrar, chief of DEC's Emergency Response Spills Unit, said less than 300 instances out of more than 300,000 shows oil and gas issues are disproportionately small.

"In the scheme of things, this is not really a problem," Farrar said.

The agency also tracks problems through its Oil and Gas Division, said Jack Dahl, director for the Bureau of Oil & Gas Regulation. Late last week, he could not provide the number of complaints that

division has responded to or the outcome.

More than three-quarters of oil and gas problems on the spills database were caught by somebody other than a DEC staff member, according to Hang's assessment. That's further evidence the Division of Mineral Resources -- with about 17 inspectors -- lacks the manpower to oversee traditional well development, let alone the Marcellus, he said.

As many as 2,000 to 4,000 Marcellus wells could be developed in Broome County in coming years, according to an economic development report commissioned by the county.

State regulators say they don't foresee problems.

"The question is, how often do they actively look for problems?" said Phil Sears of AKRF, a multidisciplinary environmental consulting firm based in New York City. "Not a whole lot."

Additional Facts

On the Web

Review files for individual gas-related accidents throughout New York State dating back to 1979. Click [here](#).
