

New Pig Energy helps keep spills to a minimum

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By MORGAN MYERS , Shale Play

What are operators doing to prevent and remediate spills while developing Pennsylvania's natural resources?

Under state code Chapter 78, operators must submit a site-specific Preparedness, Prevention and Contingency (PPC) Plan with their drilling permit application. Such a plan must identify emergency contact numbers, procedures for reporting spills and an immediate response plan for cleanup.

"You can deal with the (PPC) requirements in two ways: passive, secondary containment that functions without any human intervention and active systems that require a human to deploy," Beth Powell, of New Pig Energy, said.

New Pig Energy is a subsidiary of New Pig, a company that provided booms for the Deepwater Horizon oil spill. New Pig Energy and New Pig manufacture both types of technology. Passive containment includes liners, spill pallets and drum containers. Active systems include mats, booms, socks and drain blockers. New Pig Energy's most popular product is well pad liner, a passive form of containment developed specifically as a result of the Marcellus Shale boom.

"At first, operators were using plastics used for ponds as containment but those materials were never designed to be driven over with heavy equipment," Powell said.

Recognizing the need for an innovation, New Pig Energy engineered a liner that can be driven on without tearing. The liner also has a high friction coefficient so workers are less likely to slip during wet weather conditions or in the case of a spill.

"We focus a lot on OSHA and EPA regulations and worker protection in developing our product line," Powell said.

The technical development team at New Pig Energy interprets regulations into products that promote compliance, Powell said. Spill kits are one such product.

Spill response depends on several factors, including quantity of material spilled and likelihood of the material entering a waterway. Generally speaking, state Department of Environmental Protection defines a "reportable release" as a small spill that occurs off containment and a large spill that occurs on containment.

"If it's more than 42 gallons on containment or more than 5 gallons off containment, then it's a reportable spill. Many operators will still report every spill whether it's on or off containment regardless of quantity," Powell said.

Any spill that threatens pollution of state waters must be reported regardless of quantity, according to Chapter 78 regulations. As a preventative measure, well pads often are situated away from water. If a pad must be constructed near sensitive features, the spill prevention plan will take that into account.

"So if there's a wetland 300 feet away, maybe you have different containment designs and facilities. These aren't one-size-fits-all types of plans," said Loren Anderson, Marcellus Shale Coalition strategic projects manager.

Bathtub-like containment designed to hold tens of thousands of gallons of fluid is built around the pad as an extra measure of protection.

"Our products are used to build a one to 4-acre bathtub and all the equipment goes into the bathtub. If the blowout preventer fails, the liner keeps that material on the site," Powell said.

Powell identified some immediate actions that should be taken if a substance is unintentionally released.

"Your main goal is to stop the spill at the source as fast as possible. Then you're going to try to contain it," Powell said.

If a spill takes place near water, a berm typically is erected between the spill source and the waterway. For hydrocarbon-based spills, a boom mitigates water pollution.

"An absorbent boom will float on the surface of the water to contain the spill and will also absorb the oil," Powell said.

Powell suggests booms be placed at an angle to the bank, making cleanup easier. Since oil prevents oxygen from diffusing into water, oil-absorbent booms can go a long way in preventing a fish kill, Powell said.

If the material spilled is not hydro-carbon based, remediation can be more difficult.

"Flowback water is harder to clean up than oil-based drilling mud because if it gets to the stream it'll mix into the water instead of floating on the surface," Powell said.

Reportable releases of flowback into water are often diluted by stream flow. Still, soil at the bank will need to be remediated.

"You have to dig and keep digging until you get past the high salinity reading on the equipment. It's much easier if you can keep everything on containment," Powell said.

Under Act 13 regulations, areas impacted by spills must be restored within nine months of the completion of drilling. DEP considers a site restored when it meets conditions that support the same potential uses of the land that existed prior to the spill, including the vegetation.

Regulations related to spill prevention and remediation have spurred companies like New Pig Energy to create technology that helps protect the environment while Pennsylvania's natural resources are developed.

"We have to work well with the DEP and the oil and gas operators because of what our product line does," Powell said. "We make sure the environment and worker leaves the pad the same way they started."

- See more at:

<http://www.shaleplayohiovalley.com/page/content.detail/id/500655.html#sthash.8MoLY9kg.dpuf>