



Fluids Disposal Rules Still Inconsistent

by Jeff Griffin, Senior Editor

Drilling fluid is an essential element of a horizontal directional drilling (HDD) project, and correctly using the right fluid additives for a job's soil conditions can be the difference between success and failure.

As important as fluids are for drilling pilot holes, backreaming and product pullback, what to do with fluids after the job is completed is becoming increasingly difficult for drillers. Vacuum excavators simplify the task of cleaning up fluids on job sites. But then what? Finding sites that will accept fluids that have escaped from bore holes, or large quantities of recirculated fluids from large job sites, is becoming more difficult and expensive, and with rising fuel prices, hauling fluids to distant sites just increases the cost.

Government regulations are a factor. Drilling contractors that work regionally or throughout the U.S. are faced with different requirements in different states. Even though bentonite-based fluids basically "return to soil" when dried, regulators treat HDD fluids the same as slurry from oil and gas wells, and some even classify it as hazardous waste. Government regulations for fluid disposal are more stringent in states where protecting the environment is a high priority.

The Distribution Contractors Association (DCA) is attempting to document regulations that apply to HDD drilling fluids in each state. The ongoing program continues one initiated by the Directional Crossing Contractors Association (DCCA) before it was acquired by DCA.

Initial information

In 1994, the DCCA sent letters to each of the 50 United States, the District of Columbia, and Commonwealth of Puerto Rico, asking governments to define its requirements for disposing of HDD fluids. At the time, responses indicated that most states allowed disposal of non-contaminated fluids on private property with permission of the owner, while others required permits or special permits, and one had no policy. Fifteen states, the District of Columbia, and Puerto Rico did not respond.

With responses to the original DCCA request in hand, in 2007 the DCA sent out another letter asking those who responded to update information and again requesting information from those states who did not reply to the earlier request. Grady Bell, Laney Directional Drilling and chairman of DCA's HDD committee, said that in the interval between the first and most recent requests, there have been changes in some state departments responsible for regulation, as well as changes in some of the officials responsible for regulation. Locating the right department and contact person is a challenge.

"We are making progress, especially during the past six months," said Bell. "We have updated responses from 29 states. We find that disposal requirements vary widely; some simply reference the applicable regulation without defining its contents. Others simply say that fluid disposal must be done 'properly', while others go into great detail.

Some states permit fluids to be deposited on the ground as long as there is no pooling or runoff. On-site land farming (depositing slurry and cultivating into soil) is permitted in some states, prohibited in others and, in certain situations, required by some regulators."

Information gathered to date is available to DCA members.

Confusion

In some states, drillers may find conflicting requirements among different agencies. For example in Bell's home state of Texas, the Railroad Commission has jurisdiction over any waste produced in the construction on all oil and gas transmission projects in Texas, and prefers that drilling fluid slurry be left on site and land farmed.

"If fluids are removed from the site," said Bell, "transportation is considered hazardous and requires compliance with the more stringent regulations that apply to hazardous materials which increases the cost. The disposal site also must be approved five days in advance. If the project also falls under the jurisdiction of the Federal Energy Regulatory Commission (FERC), the FERC inspector usually prefers drilling fluids not be land farmed on the site."

The Texas Water Development Board has jurisdiction on all other waste generated in construction of non-oil and gas transmission lines and take a different approach.

So, in Texas it would be possible for two HDD rigs to be working side by side – one for a water line, the other to transport oil – drilling through the same soil formation and using the same fluid additives – and they could have different requirements for disposing of drilling fluids.

A general lack of knowledge of the directional drilling process and the function and content of HDD drilling fluids is a primary element causing inconsistency in HDD fluid disposal regulations.

"There remains widespread non-understanding of what bentonite slurry is and what danger it could pose," said Bell. "Applying oil and gas standards to HDD slurry is not a fit."

Necessary

Bell believes the majority of HDD contractors accept fluid disposal as a necessary part of the directional drilling process and are committed to doing whatever is required in the areas where they work. Knowing who regulates fluid disposal and what is required will simplify this aspect of HDD projects.

The goal of DCA's HDD committee is ultimately to supply current information from every jurisdiction to create a database of how the different states view HDD fluid and its disposal which will enable better planning and estimating the costs of disposal.

Confusion about regulatory requirements, difficulties in finding suitable disposal sites

and rising fuel costs make disposal of used horizontal directional drilling (HDD) fluids difficult and costly, but most contractors consider it simply one of the elements of being in business.

Dan Weaklend, senior vice president of safety and quality at NPL Construction Co., said that it is becoming more difficult to find locations that will accept disposal of drilling fluids.

Costs of disposal also are increasing due to disposal fees, fuel cost, driving time, and increased labor costs per man hour when a project is delayed because of disposal issues, he added.

"We are experiencing many regulatory issues in most areas we work in," Weaklend continued. "Enforcement in a few areas may vary within the same state. Environmental issues may certainly be a driving force, although we have not experienced such issues across the board. From our research, Colorado seems to be more restrictive than other areas."

Acceptability of disposing of slurry varies with the additives it contains.

"Many job sites have designated clean-out areas that meet EPA requirements for containment, and various aggregate or reclamation sites also have accommodations," said Weaklend. "On some of our sites, we use bentonite which in most slurries has a

zero hazardous rating," said Weaklend. "In colder climates, recreational vehicle or marine antifreeze which are nontoxic may be added. Inclement winter weather also may cause state and county dump sites to shut down, requiring excessive travel to a site that is open."

Moving fluids

In many areas today, leaving fluids on the job site is not an option.

In the Jacksonville, FL area, Henkels & McCoy area manager Rob Andrews said the company's primary customer requires slurry be removed.

"Most of our work is in the city with smaller drilling equipment, so fluids are not cleaned and recirculated," said Andrews. "We have small pits at entry and exit points and use small vac units to pick up fluids and take them to a holding tank in our yard. A licensed septic tank hauler removes fluid from there and disposes of it. The hauler is responsible for finding suitable disposal sites and meeting all regulations that apply."

Although transportation costs are going up, to date fees charged by the contractor are remaining stable, said Andrews.

"Twenty years ago disposing of bentonite drilling fluids was a non issue," said Bell.

"Now it is a major issue. It takes a lot of time and money today to locate safe disposal locations and to transport fluids to them."

Even when disposal complies with all requirements, there can be problems.

"We recently have had people report that our trucks were disposing of 'chemicals' without permission," Bell explained. "Actually, it was bentonite slurry being disposed of with permission of the landowner and in compliance with all requirements. With a lot of oil and gas drilling, citizens are legitimately concerned."

Bell notes that bentonite can be a problem if it is improperly dumped.

"Slurry deposited where it can flow downhill can reach waterways," he said. "And while uncontaminated bentonite itself is not harmful, it is a matter of quantity. A lot of mud might not be a problem in a big river, but in a small stream, it could be."

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