North Dakota headed for a superfund disaster?

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March 30, 2014 6:00 am  •  By [Lauren Donovan](http://bismarcktribune.com/users/profile/Lauren%20Donovan)

[What is NORM?](http://bismarcktribune.com/bakken/what-is-norm/article_357b468c-b5e1-11e3-8999-001a4bcf887a.html)

Naturally occurring radioactive material is present throughout the Earth's crust and can be concentrated in the recovery of oil and gas. It's also called technologically enhanced NORM, or TENORM. This material can be concentrated in oil production wastes such as sludge, drilling mud, used water filtration socks and pipe scale. It tends to be highest in water-handling equipment.

Generally speaking, it must be inhaled or ingested to pose a radiation health risk. This is because a vast majority of NORM radiation is in the form of alpha particles, easily stopped by the outer layers of human skin.

(Source: Energy and Environmental Research Center, Grand Forks)

[Montana operator first in radioactive waste business](http://bismarcktribune.com/bakken/montana-operator-first-in-radioactive-waste-business/article_37d73f2a-b5e2-11e3-ae72-001a4bcf887a.html)



Ross Oakland, owner of Oaks Disposal northwest of Glendive, Mont., is doing business taking oil field waste from North Dakota.

[Read more](http://bismarcktribune.com/bakken/montana-operator-first-in-radioactive-waste-business/article_37d73f2a-b5e2-11e3-ae72-001a4bcf887a.html)

A company official who specializes in radioactive waste says North Dakota risks becoming a superfund clean up site unless it takes decisive steps to deal with radioactive waste from Bakken oil production.

Joe Weismann, who heads up radiological operations for U.S. Ecology Inc., with sites in the U.S. and Canada, said North Dakota needs to get the situation under control before it's too late.

Weismann said recent discoveries of radioactive [filter socks illegally dumped in an abandoned gas station in Noonan](http://bismarcktribune.com/bakken/radioactive-dump-site-found-in-remote-north-dakota-town/article_39d0d08a-a948-11e3-8a3b-001a4bcf887a.html) and on [trailers outside Watford City](http://bismarcktribune.com/bakken/potentially-radioactive-material-spilling-out-of-trailers-near-watford-city/article_dbc501c6-9bd4-11e3-b001-0019bb2963f4.html) are the kind of uncontrolled situations that could lead to an enormously expensive cleanup forced by the federal Environmental Protection Agency.

"This creates a much larger potential problem where portions of North Dakota could screen high enough to qualify as a (superfund) site," Weismann said.

Those are chilling words. They describe exactly what North Dakota health officials, residents and the oil industry never want to see happen.

David Glatt, head of the North Dakota Health Department's environmental health section, said he thinks Weismann's worry paints too drastic a picture.

"That assessment of it being uncontrolled, those are not the facts we have at hand. A fair amount of it is being handled appropriately. The larger companies are doing it right because they don't want the liability and they don't want to have to go in and clean it up," Glatt said.

Kurt Rhea, whose Secure On-Site Services has waste contracts in the Bakken and consults with the department on radioactive issues including the Noonan and Watford City incidents, said he agrees with Glatt, even as he acknowledges it's a hard topic to quantify.

"Unless people are burning or burying filter socks, I am guessing the industry is capturing 90 percent-plus of filter socks. If we weren't, I think we would be seeing lots more incidents than we have to date," Rhea said.

He estimates perhaps two tons of filter socks are generated daily in the oil patch.

The Health Department is trying to get in front of illegal dumping. It occurs because there's no accountability, because it costs up to $7,000 a load to haul it to licensed sites out of state — U.S. Ecology being one of them — and because North Dakota landfills hit truckers with fines up to $1,000 per sock if they try to sneak them in undetected.

The Health Department has hired Argonne National Laboratories to study radioactive oil field sources, levels and risks to determine if some level of radioactive waste should be handled in licensed North Dakota facilities, not only filter socks, but other waste products.

Those study results are still months away and any new program for radioactive disposal much further out.

Then the Watford City dumping, with trailers of torn bags stuffed with filter socks and debris leaking off, came to light last month. The department announced rather than wait for the study, it would immediately begin writing rules requiring oil companies to track when and where radioactive waste is generated and provide certification of disposal.

"That cradle to grave will be the new normal," Glatt said.

Those expedited tracking rules won't be ready for public comment until June and then not in effect until some months later.

Shortly after that announcement, the dumping at Noonan hit the news. That dumping was on a larger scale than Watford City and the abandoned building where it is still stashed behind crime scene tape is owned by a fugitive who escaped police custody while being held for theft charges in Wyoming.

As a result, the department may move even more quickly to solve the filter sock problem, at least the dumping aspect, Glatt said.

Glatt said an option being reviewed right now is setting up disposal containers at saltwater disposal wells. The net-like socks are used to filter saltwater produced along with oil and concentrate naturally occurring radiation. For that reason, they're specifically banned in North Dakota, which has the most stringent restrictions in the country, at 5 picocuries per gram or less for in-state disposal.

Weismann said his company, U.S. Ecology in Idaho, handles "several thousand tons" of radioactive waste from the Bakken oil region annually, including filter socks that contain radioactivity as high as 500 picocuries per gram.

The number is 100 times higher than is allowed in North Dakota and also is Idaho's maximum limit unless the waste is specially containerized for burial, Weismann said.

Glatt said the idea is to require saltwater disposal well operators to place lined containers at the disposal wells so water haulers have somewhere legal to throw them, and also require operators to see to proper disposal.

"We're hopeful. We'll see if we can fast-track that within our existing rules," Glatt said.

Rhea said filter socks are an easy target because they're easily recognizable, but they're relatively low-level compared to other sources.

"We do see significantly higher levels in tank bottoms, pipes and older oil field equipment in sludge and scaling," he said.

He said the whole issue of radioactive oil field waste needs to be kept in perspective.

"This is low-level, naturally occurring impacted material and residuals, not enriched uranium used for the nuclear industry. If a landfill is properly designed, managed and monitored, there is no risk to the public or the environment," Rhea said.

He said North Dakota is heading in the right direction.

"They have taken the road less traveled in commissioning an independent study to look at the data before jumping to conclusions on what's right for North Dakota even though they could have just copied other states' standards and approved much higher levels," Rhea said.

Weismann said the primary concern is public health.

Whatever North Dakota does has to be aimed in one direction. "It's all about liberating the waste from an uncontrolled and unsafe situation to a safe one," he said.

He suggests that North Dakota verify that transport companies that handle the waste are trained and qualified and provide certification that the waste is properly disposed of.

"You need that certification so the truck doesn't disappear into the night into some rural area and come back empty," Weismann said.

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