

The Pennsylvania Department of Environmental Protection's Beneficial Reuse Program for Use of Conventional Oil and Gas Wastewater for Dust Suppressant Out of Compliance with PA's Solid Waste Management Act, Road Spreading Halted Pending Revised Processes

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Introduction

Until recently, the use of wastewater from conventional oil and gas drilling as a brine for dust suppressant or deicer on unpaved roads has been allowed in the Commonwealth of Pennsylvania. On May 17, 2018, the Pennsylvania Environmental Hearings Board released [a decision](#) that at least for now has the effect of limiting the use of such brines on Pennsylvania's unpaved roads. The Pennsylvania Department of Environmental Protection (DEP) is currently reviewing the Hearing's Board decision and determining potential next steps.

Background:

There are over 25,000 miles of unpaved roads in Pennsylvania. Such roads are subject to dust and erosion in the summertime, and icing in the winter. While there are 190 different kinds of dust suppressants used to treat unpaved roads, the use of wastewater from conventional oil and gas wells has been allowed as a "beneficial reuse" in Pennsylvania since 1988. The authority for such reuse comes from the Pennsylvania Clean Streams Law, the Solid Waste Management Act, and Ch. 78.55 and 101.3 of its Rules and Regulations. Pennsylvania disallowed the use of wastewater from unconventional (hydraulically fractured) oil and gas wells in 2016. Road spreading of oil and gas wastewater as brine has been widely used in parts of Pennsylvania, particularly northwestern Pennsylvania. In addition, this kind of "beneficial reuse" is allowed in 13 or more states.



The use of brine from conventional oil and gas drilling as a dust suppressant offers both advantages and disadvantages. One advantage is reduced dust emissions, helping lower the potential of respiratory and cardiovascular diseases from dust emissions. In addition, the use of brine from conventional oil and gas drilling comes at a major cost advantage to local municipalities who own roughly 17,500 miles of the unpaved roads. Commercial brine can cost around \$0.25/liter (\$0.95/gallon) and the brine from conventional oil and gas drilling is free or lower cost. This helps stretch limited budgets. There are also disadvantages. The spreading of brine from oil and gas drilling can threaten environmental and public health by leaching into the surface or ground water, accumulating in roads or adjacent soils, modifying adjacent soil chemistry, and migrating in air and dust. In addition, a recent study indicated high levels of radium resulting from such spreading.

Permitting Process:

The Department of Environmental Protection (DEP) has guidelines for spreading brine on dirt roads for dust suppression and road stabilization. Such guidelines are designed to prevent pollution while allowing the beneficial use of brine. DEP includes the approval process for spreading brine on a [fact sheet](#). First, "[a]ny person who spreads brine from oil or gas wells (other than brines produced from shale

formations) or other sources (such as brine treatment plants and brine wells) on unpaved roads for dust suppression and road stabilization must submit a plan to DEP on a yearly basis for approval.” Approval can be obtained by the operator, municipality, owner of the road, or the service company. DEP includes seven criteria from those seeking the approval of road spreading. The DEP checks to make sure that all seven criteria are present and that the plan does not show a violation of operating procedures. Further, DEP states that the plan must show the potential to pollute is minimized. Approval must be given by DEP before road spreading can be begin. Once these criteria are met, the plan will be considered complete and the DEP will grant an approval. For the entity actually spreading the brine, there are fourteen operating requirements, including monthly reporting requirements.

Siri Lawson vs. Commonwealth of Pennsylvania, Department of Environmental Protection

In the case decided on May 17, 2018, Siri Lawson, a resident, had [appealed](#) one of DEP’s annual authorizations for a servicer to spread brine on unpaved roads in Sugar Grove and Farmington Townships in Warren County. She challenged this authorization under four grounds: 1) that such approval was not an approved discharge of industrial waste; 2) that failing to impose adequate operating requirements violated Art. 1, Section 27 of the Pennsylvania Constitution; 3) that the authorization violated the Clean Streams Law and Solid Waste Management Act, and 4) that DEP lacked authority to grant approval for road spreading plans under the Solid Waste Management Act (SWMA).

In particular, Ms. Lawson [argued](#) that the authorization from the DEP to spread brine in Warren County violated the SWMA because the beneficial use of a residual waste under the act requires a permit. In a filing, DEP [conceded](#) this argument, stating that

under the particular facts of this case, [the authorization] was not properly issued to [the servicer] under the authority of the [SWMA]. Specifically, the [DEP] agrees the brine authorized for spreading [was] is a residual waste under the Solid Waste Management Act and that the placement of that brine on unpaved roads . . . must be authorized under the Solid Waste Management Act and residual waste regulations.

Further, DEP stated that a permit is required under the SWMA for the beneficial use of residual waste. In agreeing with Ms. Lawson on this issue, it appears that the DEP made a procedural error in authorizing the spread of brine from conventional oil and gas drilling under the SWMA. However, the procedural error was not identified in the Hearing Board filings.

Ms. Lawson further [argued](#) that DEP is required to issue a general permit whenever road spreading with brine from conventional oil and gas drilling may occur. The DEP [responded](#) by citing several different mechanisms under the current statutory and regulatory scheme that, depending on the circumstance, allow the spreading of brine without the DEP having to issue a general permit.

In its [opinion and order](#), the Board found Ms. Lawson’s appeal to be unreviewable and moot because DEP’s authorization for spreading had already expired. Further, DEP’s concession to the procedural mishap in the permitting process regarding the specific facts of this case meant that a new permit could not be issued without the permitting process being updated.

Current Status:

DEP is currently reviewing the outcome of the decision, and determining potential next steps. At this point, municipalities seeking authority to use conventional (not hydraulically fractured) oil and gas wastewater as brine through the beneficial reuse program may not do so. DEP is apparently considering a rulemaking to fix the procedural errors identified in the case discussed above. In the meantime, this case is generating press, including recent articles in the [Pittsburgh Post-Gazette](#) and [Goerie.com](#).

For more information, contact Lara B. Fowler, Penn State Law/Penn State Institutes of Energy and the Environment at lbf10@psu.edu or 814-865-4806.

Sources:

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- Penn State Center for Dirt and Gravel Road Studies: <https://www.dirtandgravel.psu.edu/center>
- DEP Fact Sheet: <http://files.dep.state.pa.us/AboutDEP/AboutDEPPortalFiles/RemarksAndTestimonies/Road%20Spreading%20Fact%20Sheet.pdf>
- Pennsylvania Environmental Hearings Board Docket: http://ehb.courtapps.com/public/document_shower_pub.php?csNameID=5452
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