



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 23 1992

OFFICE OF  
GENERAL COUNSEL

MEMORANDUM

**SUBJECT:** Classification of Septic System Drain Fields and  
Infiltration Galleries as Underground Injection Wells

**FROM:** Susan G. Lepow *Susan Lepow*  
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**TO:** Wendell Ray Cunningham  
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Region IV

In your memorandum of August 21, 1991, you requested a legal opinion on the following issue that was raised by correspondence to you from the Environmental Protection Division of the Georgia Department of Natural Resources (hereinafter "Georgia DNR/EPD"):

ISSUE

Are septic systems with connected drain fields which are used for disposal of non-domestic wastes properly classified as injection wells (Class V) subject to the requirements of the Underground Injection Control (UIC) program?

SHORT ANSWER

In its 1987 Report to Congress on Class V Injection Wells ("Class V Report"), EPA has classified septic systems with connected drain fields as injection wells subject to regulation under the UIC program, whether used for the disposal of domestic

or non-domestic wastes.<sup>1</sup> This classification is a reasonable interpretation of the statute and regulations. The definition of "well injection" in the Safe Drinking Water Act does not preclude regulation of such septic systems as injection wells. Furthermore, EPA's UIC regulations support the classification of all septic systems as injection wells.

## DISCUSSION

### Statutory and Regulatory Background

The Safe Drinking Water Act (SDWA) authorizes EPA to regulate "underground injection," which Section 1421(d)(1) of the statute defines as the "subsurface emplacement of fluids by well injection." 42 U.S.C. 300h(d)(1). The term "well" is not defined in the statute. To implement the statutory provision, EPA regulations define well injection as follows: "the subsurface emplacement of 'fluids' through a bored, drilled or driven 'well;' or through a dug well, where the depth of the dug well is greater than the largest surface dimension." 40 C.F.R. 144.3. The term "well" is defined as "a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension." *Id.* Neither the language of the statute nor the regulatory definition of an injection well specifically excludes septic systems under the UIC program.

EPA interprets the definition of "well injection" to include operation of septic systems, including those with leach fields. EPA's regulations specifically identify "[a]ny septic tank, cesspool, or other well used by a multiple dwelling, community, or Regional system for the injection of wastes" as wells subject to the UIC regulations. 40 C.F.R. 144.1(g)(1)(iv). In the preamble to the 1979 reproposal of the original UIC regulations, EPA noted that "[d]ug wells and non-residential septic tanks also fall under the term [injection well]." 44 Fed. Reg. at 23,740 (Apr. 20, 1979). The preamble went on to state that "[m]ulti-family, commercial, and industrial septic system disposal wells are . . . included in [as] Class V [wells] in accordance with the

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<sup>1</sup>. Neither the Safe Drinking Water Act nor EPA's UIC regulations define the terms "domestic wastes" or "non-domestic wastes." For purposes of this memorandum, I will use the term "domestic wastes" to refer to sanitary wastes, since that is the meaning that the Georgia DNR/EPD apparently intends for the term in its memoranda. Thus, a "domestic septic system" would refer to a system used for the disposal of sanitary wastes. By contrast, a "non-domestic septic system" would refer to a system used for the disposal of industrial or other wastes, rather than sanitary wastes.

intent of Congress, as stated in the House Report 93-1185."<sup>2</sup> Id. at 23,754. In the preamble to the final regulations, EPA confirmed this reading:

Single family domestic sewage disposal systems are not covered under the UIC program. Multiple dwelling and industrial sewage disposal systems are generally included in Class V. Those that are used to dispose of hazardous waste fall under Class IV.

45 Fed. Reg. at 42,479 (June 24, 1980). Although these statements do not specifically reference "non-domestic septic systems" as Class V wells, they refer to all septic systems without limitation, and specifically mention industrial septic systems as being subject to regulation. Thus, EPA's past statements provide some support for regulation of non-domestic septic systems as injection wells.

#### Analysis

The interpretation that septic systems, both domestic (other than single family systems) and non-domestic, qualify as Class V wells is reasonable and legally defensible in light of the statute, the language of EPA's UIC regulations, and EPA interpretations of those regulations. First of all, as noted above, the SDWA does not even define what constitutes a "well" subject to UIC regulations. Thus, EPA has substantial discretion to define the term in any manner which is reasonable in light of the goals and purposes of the SDWA. Chevron, U.S.A. v. NRDC, 467 U.S. 837, 843-44 (1984). Furthermore, EPA has even broader authority to interpret the meaning of its own regulations. United States v. Larionoff, 431 U.S. 864, 872 (1977). EPA's

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<sup>2</sup>. In the legislative history to the SDWA, Congress did instruct that "the definition of 'underground injection' is intended to be broad enough to cover any contaminant which may be put below ground level and which flows or moves." H. Rep. No. 1185, 93d Cong. 2d Sess., at 31 (July 10, 1974). The legislative history goes on to explain that

"[w]hile the [House] does not intend [the] definition [of well injection] to apply to septic tanks or other individual residential waste disposal systems, it does intend that the definition apply to a multiple dwelling, community, or regional system of injection of waste."

Id. While this language does not specifically address non-domestic septic systems, Congress clearly expressed its intent that the UIC program apply to multi-family and industrial waste disposal systems, although not to single-family septic systems.

regulatory definition of a well, simply stated, is a hole or shaft which is deeper than it is wide. 40 C.F.R. 144.3. Thus, the essential question for analysis is whether a septic system may be classified as a well under EPA's regulatory definition in light of the discretion afforded to the Agency to define the scope of that term. This memorandum concludes that the definition may be so read.

As discussed in EPA's Class V Report, septic systems consist of two major components: a septic tank and a subsurface treatment/disposal system. Class V Report at 4-156. In the typical construction, septic tanks receive wastes from the surface through pipes which run underground vertically or at an angle for some distance and enter at one end or the top of the tank. *Id.* at 4-157 (diagram). At the end of the tank, the treatment/disposal system may be another well, a drain field, or no system at all. *Id.* at 4-152.<sup>3</sup> Based on the description in the Class V Report, it is reasonable to conclude that septic systems place fluids below the surface through the entry pipes, which extend deeper than their largest surface dimension. Such pipes fall within the definition of a well pursuant to 40 CFR 144.3. This conclusion holds regardless of the construction of the treatment/disposal system. Therefore, a septic system with a drain field, if constructed in the manner outlined in the Class V Report or in a similar manner, constitutes a "well" under the UIC regulations.

EPA's coverage of septic systems, including those with drain field constructions, under the UIC program is consistent with the understanding of Congress as expressed in the House Report cited above. Furthermore, there is no significant distinction between domestic and non-domestic septic systems, except for the fluids being disposed. Typically, the physical construction of non-domestic systems is the same as for domestic systems. Thus, EPA's definition of injection well may be read to cover non-domestic as well as domestic septic systems.

The Georgia DNR/EPD has questioned EPA's authority to regulate non-domestic septic systems with drain fields as UIC

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<sup>3</sup>. The Class V Report specifically identifies three types of septic systems as Class V wells: those that use an undifferentiated disposal method (Code 5W11), those that use a well disposal method (5W31), and those that use a drain field disposal method (5W32). Class V Report at 4-152. In addition, industrial waste disposal wells (5W20) and service station disposal wells (5X28) are identified as well types that sometimes use septic system constructions. *Id.* at 4-250, 4-251, 4-278. The classification of all of these septic systems as Class V wells in the Class V Report suggests that EPA interprets its regulations to cover such systems.

wells. The legal analysis submitted by the Georgia DNR/EPD asserts that "non-domestic septic systems with lateral drain fields do not meet the definition of Class V Injection Wells." Letter from Alan Gantzhorn to Harold F. Reheis, November 11, 1991 at 1. The letter asserts that a lateral drain field is not a well because "unless a lateral drain field is itself connected to a well, in virtually every case the largest surface dimension of the lateral drain field will exceed the depth of the drain field." Id. at 2.

While the Georgia DNR/EPD is correct that drain field pipes are generally not installed such that a drain field is deeper than it is wide, this does not affect the conclusion that septic systems with attached drain fields may be considered "wells" under the UIC program. As discussed in more detail above, EPA's position is that the pipes which transport the waste to a septic tank constitute a "well" for UIC regulatory purposes, regardless of whether the septic system is attached to a well disposal or drain field disposal system. These pipes leading to a septic tank emplace fluids below the surface through a shaft deeper than the pipes are wide.

Since septic systems constitute injection wells, the only remaining issue is to identify the proper well class. If the wastes being disposed of in such well systems are RCRA hazardous wastes, such well systems would be Class IV (and banned under 40 C.F.R. 144.13); otherwise, the wells would be Class V. At present, Class V wells are authorized by rule if the operator of the well properly inventoried the well pursuant to 40 C.F.R. 144.26. The UIC program director may require a permit for any Class V well, and such wells are subject to the non-endangerment requirement of 40 C.F.R. 144.12.

The Georgia DNR/EPD notes that EPA regulations do not specifically list non-domestic septic systems as Class V wells. Letter from Harold F. Reheis to William Taylor, July 19, 1991, at 1. This is not determinative, however. The Georgia DNR/EPD appears to refer to the list of 16 examples of Class V wells found at 40 C.F.R. 146.5(e), which lists some, but not all, septic system wells as Class V injection wells. See 40 C.F.R. 146.5(e)(9) ("septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank"). This list, however, was not meant to be all-inclusive. 40 C.F.R. 146.5(e) ("Class V wells include [the following list]") (emphasis added). Indeed, EPA's 1987 Class V Report identifies at least 31 different subtypes of Class V wells. The analysis presented here is based on the regulatory definitions of "well" and "well injection," rather than the specific enumeration of non-domestic

septic systems as Class V wells.<sup>4</sup>

For the reasons stated above, EPA may reasonably classify septic systems with drain fields as UIC wells. Nonetheless, in light of the on-going interest in this issue, I understand that the Office of Ground Water and Drinking Water plans to further address and clarify the status of these systems in its upcoming Notice of Proposed Rulemaking concerning Class V UIC wells.

The Georgia DNR/EPD could elect to prohibit the operation of non-domestic septic systems, as one of the Georgia DNR/EPD's letters suggests. States may adopt UIC provisions which are more stringent than EPA regulations. 40 C.F.R. 145.1(g). In addition, regardless of the regulatory status of non-domestic septic systems under the UIC program, EPA always has the authority to take any action necessary to prevent an imminent and substantial endangerment to the health of persons due to contamination of an underground source of drinking water, including one caused by septic system activity. 42 U.S.C. 300i.

#### Infiltration Galleries

In your memorandum, you also asked about the status of infiltration galleries as injection wells in light of the April 2, 1991 final rule (56 FR 13406), which exempted injection wells used for the purpose of ground-water remediation, but not infiltration galleries used for that same purpose, from requirements under Subtitle C of RCRA. The Office of Ground Water and Drinking Water and the Office of Solid Waste are in the process of developing joint guidance to address the status of infiltration galleries. The guidance will clarify which infiltration gallery constructions also qualify as injection wells subject to the UIC program. OGC and OE have reviewed a draft of this guidance. I also understand that the guidance has been sent to the Regions for comment.

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<sup>4</sup>. It should be noted that use of the term "septic system wells" to define a subtype of injection well, is somewhat confusing. The language could be read to include only septic systems which use the well method of disposal (i.e., 5W31 wells). On the other hand, the language could also be read to include any septic system which is otherwise a "well" (such as a non-domestic leach field). Thus, the Georgia DNR/EPD's conclusion that 40 C.F.R. 146.5(e)(9) clearly excludes septic systems with drain field constructions is not correct.

I hope this memorandum helps to address your concerns. If you have any questions regarding this memorandum, please contact Randy Hill of my staff. He may be reached at FTS 260-7629.

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