



United States
Environmental Protection
Agency

How to Comment

You may comment or request a hearing on the proposed exemption reissuance in writing. Please refer to Vickery Environmental, Inc.

Submit your comments or request for a hearing to **Docket ID No.**

EPA-R05-OW-2024-0495 at

<https://www.regulations.gov/docket/EPA-R05-OW-2024-0495>

If you are unable to submit electronically, please contact Kaelyn Quinlan at 312-866-7188 for instructions on how to comment.

Comment Period

U.S. EPA will accept written comments until 11:59 PM on February 18, 2025.

To view the draft exemption, go to the above Docket.

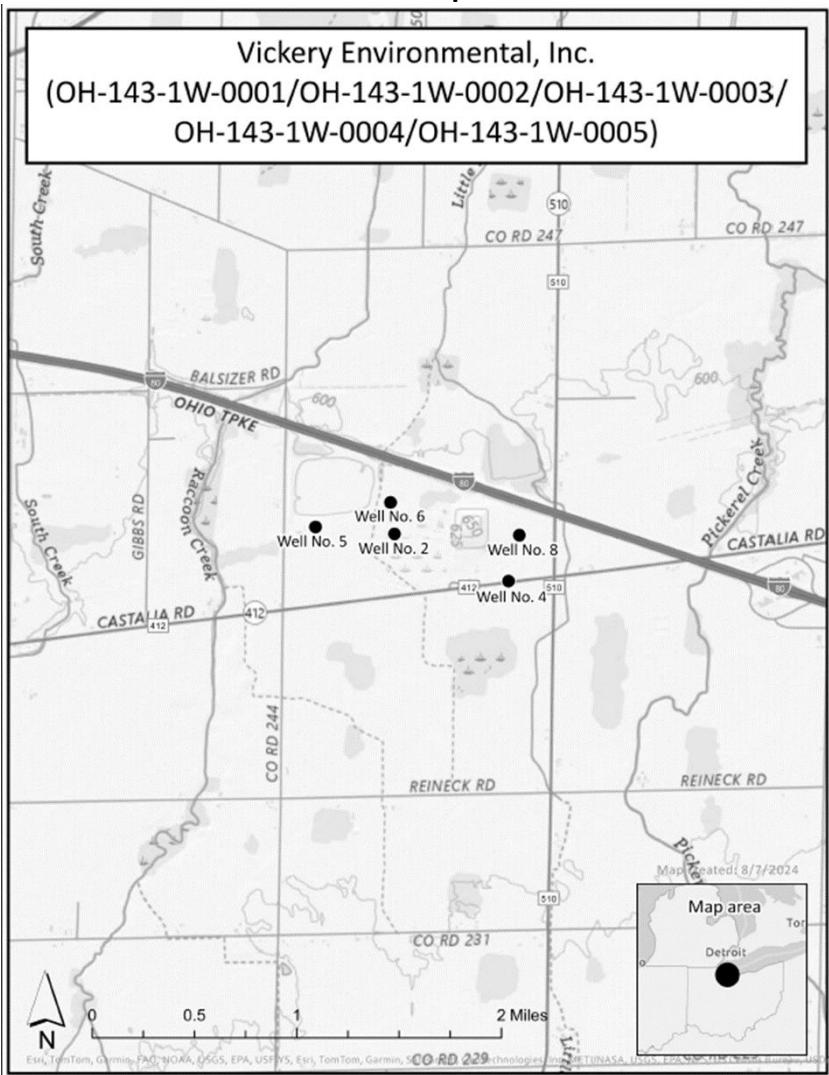
EPA Plans to Reissue Exemption for Hazardous Waste Injection Wells

Applicant: Vickery Environmental, Inc.

Site Location: Vickery, Ohio

January 2025

Site Map



The U.S. Environmental Protection Agency (U.S. EPA) plans to approve a request from Vickery Environmental Inc. (VEI) to reissue an existing exemption to the general ban, in the Resource Conservation and Recovery Act, on land-based disposal of hazardous waste. The Agency will consider public comments on the proposed reissuance (see box, left) before making a final decision.

VEI has five existing injection wells at 3956 State Route 412, Vickery, Ohio. The company currently holds an exemption from the federal ban on underground disposal of hazardous waste for four of these wells, Well Nos. 2, 4, 5, and 6. U.S. EPA originally approved the exemption in 1990 and last reissued it in 2015. The existing exemption is

valid until June 2027. It is based on prior modeling of the behavior of injected fluid deep underground done in 2007. An exemption renewal would include a fifth well, No. 8.

U.S. EPA found the company has shown – based on a reliable prediction – that with the addition of the new well that injected waste will not move out of the injection zone within 10,000 years. The company has also shown that waste will not come into contact with any underground source of drinking water.

Background

Federal law prohibits the disposal of untreated hazardous waste on the land or into an injection well. The law allows U.S. EPA to grant exemptions. To qualify for an exemption, an owner or operator of an injection well must demonstrate that, to a reasonable degree of certainty, injected material will stay in the injection zone for as long as the waste is hazardous. That can be done by showing conditions at the injection site will prevent any movement of injected waste out of the injection zone in 10,000 years, and that conditions will prevent the possibility of waste contaminating any underground source of drinking water. This is known as a no-migration demonstration. Details are in Title 40 of the Code of Federal Regulations part 148. VEI made an acceptable no-migration demonstration in a 2022 request that U.S. EPA reissue the 2015 exemption to include Well No. 8. The addition of Well No. 8 will not change the petition's existing requirements or operational parameters.

Technical information

VEI uses hazardous waste wells, which U.S. EPA calls Class I wells, to inject into a geologic interval composed of the Mt. Simon Sandstone. The top and bottom of the injection interval are 2,791 and 2,950 feet below ground level, respectively. The base of the deepest underground source of drinking water in the area is approximately 602 feet below ground level, so there is approximately 2,189 feet of separation between the drinking water source and the injected hazardous waste. An arrestment interval is just above the injection interval. The top and bottom of the arrestment interval are 2,360 and 2,791 feet below the ground surface, respectively. The arrestment interval keeps the injected fluid in the injection zone because it contains low-permeability rock and does not have

faults or fractures that could allow the fluid to move upward. The injection interval and the arrestment interval together are called the injection zone. A 544-foot-thick confining zone lies above the injection zone. Extending laterally for hundreds of miles, the confining zone provides additional protection.

All injection wells have an “area of review.” In this case, the area of review extends five miles around the well bore. If there are other wells in the area of review that are not properly plugged or abandoned, they could serve as a pathway for waste migration from the injection zone. VEI identified eight wells within the area of review and showed these wells were properly constructed or plugged. There are no known faults in the area of review that connect the injection interval with drinking water sources.

The VEI wells are permitted by the Ohio Environmental Protection Agency. Under the permits, the wells must pass an annual pressure test and a radioactive tracer survey to confirm the injected fluids are entering the injection interval and not moving up the well bore out of the injection zone. These tests demonstrate the mechanical integrity of a well's key components. The wells passed the annual pressure test and radioactive tracer survey performed between May and October of 2023.

Conditions of petition approval

The proposed reissuance of the exemption is subject to conditions as summarized below. Failure to comply with the conditions is grounds for termination of the exemption.

1. The exemption applies to the five existing injection wells, #2, #4, #5, #6, and #8 located at the VEI facility at 3956 State Route 412, Vickery, Ohio.
2. Injection of restricted hazardous waste is limited to the part of the Mt. Simon Sandstone at depths between 2,791 and 2,950 feet below the surface.
3. Only restricted wastes designated by the codes in Table 1 in the draft decision may be injected.
4. Maximum concentrations of chemicals allowed to be injected are listed in Table 2 in the draft decision.

5. The average specific gravity of the injected waste stream must be no less than 1.08 over a one-year period.
6. VEI may inject up to a combined total of 240 gallons per minute into Well #2, #4, #5, #6, and #8 based on a monthly average.
7. The exemption would be approved for the 20-year modeled injection period, which ends on June 30, 2027. VEI may petition for a reissuance of the exemption beyond that date, provided the company gives U.S. EPA a new and complete petition and no-migration demonstration by Jan. 31, 2027.
8. VEI must submit a quarterly report to U.S. EPA containing an analysis of the injected waste and indicating the chemical and physical properties, including the concentrations, of all the injected chemicals listed in Table 2 in the draft decision.
9. VEI must submit of the reports from annual bottom-hole pressure surveys conducted in well #2, #4, #5, #6, and #8 to U.S. EPA when these reports are submitted to the Ohio EP A. The reports must include a comparison of reservoir parameters determined from the fall-off test, such as permeability and long-term shut-in pressure, with parameters used in the approved no-migration petition.
10. VEI must submit copies of the reports on the annual radioactive tracer surveys and annulus pressure tests for wells #2, #4, #5, #6, and #8 to U.S. EPA when these reports are submitted to Ohio EPA.
11. VEI shall notify U.S. EPA in writing if any injection well loses mechanical integrity, prior to any workover or plugging, when these notifications are submitted to Ohio EPA.
12. The petitioner must fully comply with all requirements set forth in Underground Injection Control Permits 03-72-009-PTO-I, 03-72-011-PTO-I, 03-72-012-PTO-I, 03-72-013- PTO-I and 03-72-014-PTO-I issued by Ohio EPA.
13. Upon the expiration, cancellation, reissuance, or modification of the permits referenced above, this exemption is subject to review.
14. Whenever U.S. EPA determines that the basis for approval of a petition under 40 CFR §§ 148.23 and 148.24 may no longer be valid, U.S. EPA may terminate this exemption and will require a new demonstration in accordance with 40 CFR § 148.20.

**Administrative
Record**

To request review of Administrative Record files or for additional information please contact Kaelyn Quinlan at 312-886-7188 or quinlan.kaelyn@epa.gov.