United States Environmental Protection Agency

EPA Plans to Reissue Permits for Hazardous Waste Injection Wells

Cleveland-Cliffs, LLC
Burns Harbor, Indiana

August 2025

How to comment

You may comment on the proposed permit reissuance for four existing Class I hazardous waste permits in writing; please refer to Cleveland-Cliffs, LLC, Permits Number IN-127-1W-0001, IN-127-1W-0003, IN-127-1W-0004, and IN-127-1W-0007. Your comments may also ask for a public hearing, explaining the specific issues you want to raise.

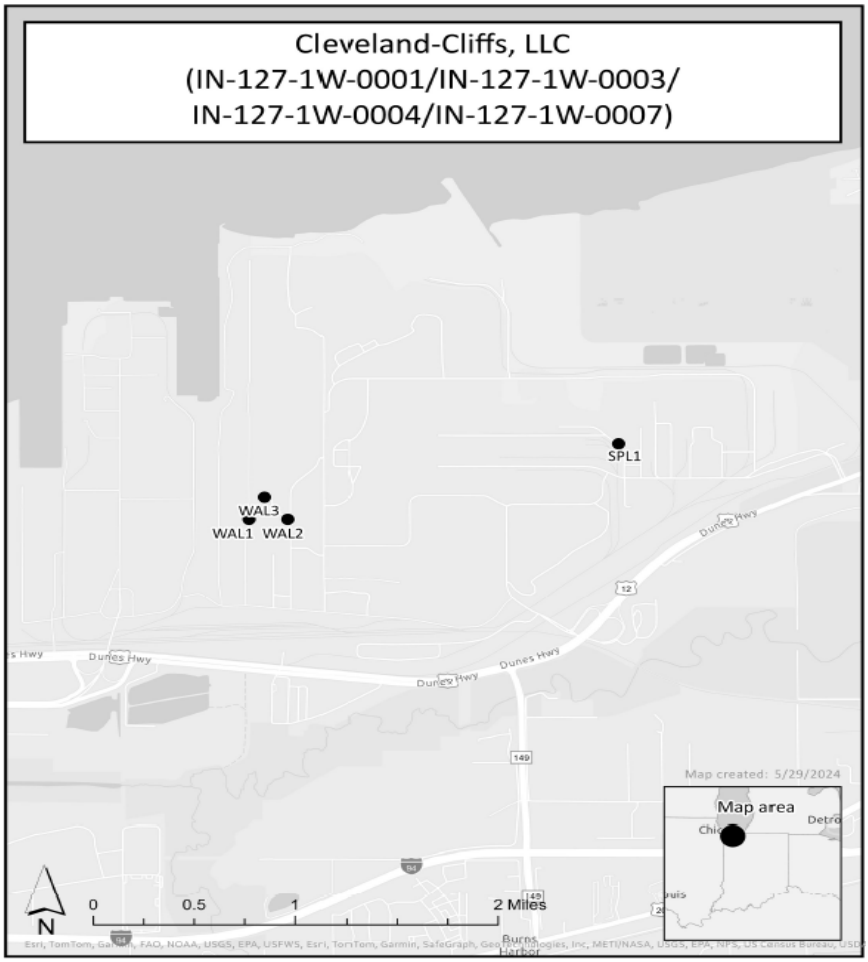
Submit your comments by email to r5uic@epa.gov.

If you are unable to submit by email, please contact Colin Murphy at 312-886-6941 for instructions on how to comment.

Comment Period

EPA will accept written comments and requests for a hearing until September 15, 2025.

To view the draft permits, or to get on the EPA mailing list, go to: https://www.epa.gov/node/88753#public-notices



The U.S. Environmental Protection Agency (EPA) plans to reissue four permits for existing injection wells operated by Cleveland-Cliffs LLC at 250 W. U.S. Highway 12, Burns Harbor, IN 46304. The existing permits are for four Class I hazardous waste injection wells, SPL #1 and WAL #1-3, which inject hazardous waste deep beneath the earth's surface. The Agency will consider public comments (*see box, left*) before making a final decision.

Cleveland-Cliffs, and its predecessors, have operated injection wells at its Burns Harbor facility since the 1960's and drilled a new well in 2012. These wells operate under Class I hazardous waste injection well permits from EPA that allow the company to inject waste from steelmaking processes known as steel pickling and galvanizing, and from the coke-making process. These wastes are disposed of through the operation of two injection well systems, the spent pickle liquor (SPL) system and the waste ammonia liquor (WAL) system.

Background

Hazardous waste injection wells are subject to two different federal environmental laws, the Safe Drinking Water Act (SDWA) and the Resource Conservation and Recovery Act (RCRA). SDWA requires Cleveland-Cliffs to have an underground injection control permit for each well and requires Class I wells to inject waste into an area below the deepest underground source of drinking water (USDW). All Class I wells must be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The company is seeking renewal of the permits for its four existing wells. RCRA prohibits disposal of hazardous waste underground unless a company has received a "land ban exemption" from EPA. EPA issued a renewed exemption to Cleveland-Cliffs in 2015. After reviewing Cleveland-Cliffs' permit reissuance requests, EPA found that the company has shown that injected waste will not threaten any underground sources of drinking water. Therefore, EPA plans to renew the company's permits which would be valid for 10 years.

Technical Information

Wells of this type – which EPA calls Class I wells – must be in geologically suitable areas. Cleveland-Cliffs provided geologic, hydrologic, and geochemical information, along with test data and logs from the wells to show the facility is at a geologically suitable site.

The wells pump waste into the Mt. Simon Sandstone and the upper portion of the Precambrian Basement. The injection interval is at depths between 2,715 and 4,290 feet below the surface. The upper portion of the injection zone is sometimes called the arrestment interval. The arrestment interval for these wells comprises the upper Mt. Simon Sandstone and the lower Eau Claire Formation, which are between 2,170 and 2,715 feet below the surface. Together, the injection interval and the arrestment interval contain the injected liquids and are called the injection zone.

Overlying the arrestment interval is the confining zone, which protects underground sources of drinking water by preventing the movement of waste outside of the injection zone. This is a layer of rock 234 feet thick known as the Upper Eau Claire Formation. All of these formations extend laterally for hundreds of square miles.

An underground source of drinking water is an aquifer or part of an aquifer that contains water with less than 10,000 milligrams per liter of total dissolved solids. The deepest underground source of drinking water in this area is 726 feet below the surface, so the waste is 1,400 feet or more below the deepest potential source of drinking water.

Area of Review: All Class I wells have an "area of review," or AOR. In this case, to be conservative, the company used an AOR that extends two miles from its injection wells. If there are other wells in the AOR that reach the injection zone, waste under pressure could contaminate supplies of drinking water by moving up through a well near the injection site, or through an abandoned well that was improperly plugged. Cleveland-Cliffs' application shows two wells in the AOR which penetrate the injection zone. One of these wells has been properly plugged and abandoned, and the other well is the Galesville Sandstone monitoring well, which has been plugged back above the injection zone. A corrective action plan for these wells is not required.

Maximum Injection Pressure: EPA set an injection pressure limit that will prevent the injection formation from fracturing. For well SPL #1, the maximum injection pressure for is 200 psig, and the maximum injection rate measured over a monthly average is 175 gpm. The maximum injection pressure for wells WAL #1 and WAL #3 is 792 psig. The maximum injection pressure for well WAL #2 is 794 psig. The cumulative monthly average injection rate for wells WAL #1-3 is 300 gpm.

Testing and Monitoring: Injection pressure, annulus pressure, injection rate, cumulative injection volume, and injectate temperature of all wells will be monitored continuously. The chemical composition of the injectate for each well will be sampled and analyzed monthly. Injectate sampling and analysis will be conducted in accordance with each well's waste analysis plan.

Cleveland-Cliffs must submit an annual report to EPA with results of a bottom hole pressure survey (fall-off test) of one of the four wells as part of ambient monitoring of pressure buildup in the injection interval. Internal mechanical integrity of all four wells must be demonstrated at least once every twelve months by a standard annulus pressure test. Cleveland-Cliffs must run a temperature, noise, or other approved log in each well at least once every 60 months to demonstrate external mechanical integrity.